# Alberta Economic Multipliers

## 2013

Alberta

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# PREFACE

This publication presents economic multipliers and supply ratios for the Alberta economy calculated using the 2013 Alberta Treasury Board and Finance Input-Output (I/O) model. Information is provided for both the Open (direct and indirect impacts) and Closed (direct, indirect and induced impacts) forms of the model. Economic impacts are presented for the Alberta economy only.

The tables used in this publication are derived from the 2013 inter-provincial I/O tables released by Statistics Canada in November 2016.

**Custom Impact Analysis**

In addition to this publication, Alberta Treasury Board and Finance maintains a highly disaggregated I/O model at the detailed confidential level, which covers 236 industries and 488 commodities. The model may be used to simulate directly both Open and Closed impacts, where additional precision or more detailed output is required than is presented in this publication. To make the model more descriptive of changing economic conditions, the commodity structure can also be customized to client specifications.

The I/O model has a tax module that provides impacts on federal, provincial and local tax revenues, as well as the number of jobs required for any given impact.

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# Introduction

## Measuring Production in the Economy

The most common measure of production in the economy is Gross Domestic Product (GDP). GDP captures the value of goods and services produced for final domestic consumption, export or investment. In other words, it covers only the final, unduplicated output. For example, the value of a good or service sold by Industry A to Industry B, which in turn is used in Industry B's production process for sale into final demand, is not directly recorded in GDP. Industry A's output is not counted directly because it is implicitly included in the value of output of Industry B when it is sold into final demand. Including Industry's A output would result in double-counting of its contribution to the overall economy. To avoid this problem, in calculating GDP, goods or services are valued only at the point where they are sold into final domestic demand (i.e., to households for consumption; to business for investment; or to government for current or capital expenditure) or when they are exported.

An inherent limitation of the GDP is that it does not capture goods and services consumed during the production process (i.e. intermediate inputs). While the GDP method ensures there is no duplication, useful information concerning the flow of goods and services among the various industries and consuming sectors in an economy is not revealed.

To better reflect the flow of goods and services in the economy, it is necessary to use another valuation method called total output. Total output captures the value of goods and services for final consumption or export, plus those that are consumed during the production process (referred to as intermediate inputs). These aspects are the focus of Input-Output (I/O) analysis.

## The System of National Accounts

The System of National Accounts (SNA) developed by Statistics Canada, provides the tools to analyze production from both a value-added GDP and I/O perspective, enabling the measurment of the value of goods and services in the economy, including the flow of commodities to final demand sectors; the cost of primary inputs to industries; and the value added by industries.

The SNA recently underwent a historical revision, which entails the incorporation of conceptual, classification, presentational and major statistical changes. As a result, the lists of industries and commodities presented in this publication will differ from those in editions prior to the 2009 economic multipliers.

There are four key statistical components of the SNA:

- I/O tables, which summarize the total output of commodities by industry and the use of commodities by industries. They reflect the flow of commodities between industries and to final demand sectors; the value added by industry; and the cost of primary inputs to industries. In this way, the I/O tables describe the activity of production in the economy.
- Income and expenditure accounts, which focus on income generated by productive activity and final expenditure on that production. It is from these tables that the common measure of GDP is calculated. Estimates of Alberta GDP can be found in the income and expenditure accounts of the Alberta Economic Accounts.
- Financial flow and national balance sheet accounts, which focus on capturing transactions in assets and liabilities for a number of institutional sectors. The financial flows accounts reveal the financing of economic activity.
- Balance of payments and international investment position, which are devoted entirely to transactions with non-residents or the rest of the world in the economy.

For more detailed discussion on the SNA, please go to the Statistics Canada website, System of National Economic Accounts *www.statcan.gc.ca/nea-cen/index-eng.htm.*

# The Input-Output Model

## What are I/O Models?

Input-Output (I/O) models use the information from I/O tables to capture the interdependence of industries and reflect the flow of goods and services through the economy. The main purpose of I/O models is for impact analysis, measuring how changes in industry output or final demand of commodities impact the economy in terms of total output, GDP, employment, labour income and government revenue.

I/O analysis has its foundations in the analytical framework developed by Wassily Leontief in the late 1930s. In its most basic form, an I/O model consists of a system of linear equations that represent how various industries' commodities are distributed throughout the economy. The models are based on tables that describe the flow of commodities through the economy from producers in one industry to another industry, and to final demand. The table 1 represents a simplified I/O framework:

Table 1: Simplified I/O Accounting Framework

| | Industries | Net Final Demand | Total Output |
|---|---|---|---|
| Industries | F | Y | X |
| Value added (Primary Inputs) | V | | |
| Total Input | X | | |

Source: UN Handbook of Input-Output Table Compilation and Analysis, 1999

In practice, I/O models have been developed to incorporate the effects of inter-regional trade flows, employment, taxes and other variables.

The table shows the flow of commodities from the supplying sectors to the consuming sectors, including other industries and final demand entities. The industries on the columns of matrix F are consuming sectors, while the industries on the rows of F are supplying sectors. Total input is the sum of the inputs supplied by industries (columns of F) and any value added (other non-industrial inputs to production like labour, profit, indirect taxes and depreciation of capital). Total output is the sum of output consumed by industries in the production process (represented in rows of F), plus net final demand. In summary, the total value of output in the economy equals the sum of its inputs (Total Input X = Total Output X).

From this table, a system of fixed-coefficient linear production functions can be developed that represent the proportion of commodities being supplied and consumed by each industry. These coefficients are the backbone of I/O analysis because they represent how changes in input or output will impact the entire economy.

## I/O Impacts and Model Closure

The impacts derived from I/O models can be separated into direct, indirect, and induced impacts:

- Direct impacts are those first-level impacts resulting from a shock or change in demand, to either industry output or final demand. They refer to the direct impact on those industries that must respond to satisfy the change in demand for commodities.
- Indirect impacts are secondary, and are generated from the linkages between industries. They refer to the impacts on industries that supply intermediate inputs to the industries directly impacted by the shock.
- Induced impacts capture the income effect of the shock. They measure the impact of additional consumption from spending the wages generated by the shock. For example, when there is an increase in final demand, industries have to increase production. They hire additional people, who receive wages. It is assumed that these households, after withdrawing a portion of their income for savings and taxes, spend the rest of their income on consumer goods and services. This creates an additional multiplier effect on the economy.

## Calculating GDP

The three methods for calculating GDP can be applied using the I/O framework above.

1. The value-added approach, which is the sum of value added for all industries (subtracting purchases from other businesses from the total value of output);
2. The income approach, which adds up all the factor incomes generated in the production process (for example, labour and profits);
3. The final expenditure approach, which is the sum of all sales to end users, including exports net of imports.

### Open vs. Closed

The impact of spending by final demand categories can be considered external to an I/O model because decisions about spending come from factors outside the model, such as availability, personal preference, etc. This means that the final demand by these entities is taken as a given, and is unrelated to the level of production by industries in the model. In this type of model, which is referred to as an "Open" I/O model, direct and indirect impacts are measured, while induced impacts are not measured.

In reality, there is a link between households and the production process through labour and wages, represented by induced impacts. In this case, the household sector is endogenous to the model and treated as a production sector. The input of the household sector is consumer expenditure on goods and services, while output is labour income (consisting of wages and salaries, supplementary labour income and labour income of unincorporated sector). An I/O model which makes households endogenous is referred to as a "Closed" model. I/O models can also be "closed" to other factors such as government sales and purchases, but closure to households is the most common. In this type of model, all three impacts are measured (i.e., direct, indirect and induced).

Closing an I/O model to households increases the interdependence of the system and results in a higher impact on the variables of the model, leading to multipliers of a larger magnitude than those based on the Open version. The Closed model has been criticized because it introduces a bias in favor of those economic projects with a higher labour content. For example, consider where two projects have identical purchased inputs and the same level of direct GDP, but one project has a higher proportion of labour income and the other a higher proportion of operating surplus (e.g., corporation profits). In this situation, the Closed model will estimate a larger economic impact for the project with the higher proportion of labour income (other things being equal). This result occurs because the model has been "closed" to household spending but not to profits, and the induced impacts estimated by the model are related to the level of household income rather than profits. Care should be exercised when interpreting Closed model results.

## Limitations of I/O Models

I/O analysis is based on various assumptions about the economy and the linkages among industries and commodities. While I/O models are very useful tools in the decision-making process, users should be aware of the caveats and limitations when applying them:

- The relationship between industry inputs and outputs is linear and fixed, meaning that a change in demand for a commodity or for the outputs of any industry will result in a proportional change in production. The model cannot account for economies/diseconomies of scale or structural changes in production technologies, an assumption which does not necessarily hold in the actual economy.
- Prices are fixed in the model.
- I/O models reflect industry averages for technology use and average input costs. For these and other reasons, an I/O model will not provide a totally complete or absolute measure of the impact of economic change.
- I/O models are static and do not take into account the amount of time required for changes to happen.
- There are no capacity constraints, and all industries are operating at capacity. This implies that an increase in output results in an increase in demand for labour (rather than simply re-deploying existing labour). It also implies that displacement will not occur in existing industries, as new projects are completed.

The structure and limitations of I/O models lend themselves to measuring the impacts of short term projects; generally, they are used to look at shocks to the economy. For longer-term time series analysis, the use of general equilibrium models are more appropriate.

## The Alberta I/O Model

Alberta Treasury Board and Finance has developed an I/O model for the Alberta economy based on the structure of Statistics Canada's inter-provincial model. Although the Alberta model accounts for the interaction of imports and exports on the Alberta economy (both inter-provincial and international), the Alberta model provides impacts for Alberta only. The model has the capacity to run impact analysis on industry expenditures, output and changes in final demand.

The key inputs to the model are the Alberta I/O tables, produced annually by Statistics Canada through the SNA. The I/O tables consist of the output, use and final demand matrices. The output matrix is a table that shows the value of goods and services produced by each industry; the use matrix shows the makeup of the inputs needed for each industry to produce its output; and the final demand matrix shows the final consumption of goods and services. Using these tables, it is possible to produce a system similar to the one outlined in Table 1.

Provincial I/O tables are available publicly at the "Summary" level of aggregation, while national I/O tables are available at the "Detailed" aggregation level. I/O tables at the "Detailed Confidential" level of aggregation are provided to provinces exclusively through data-sharing agreements. This level provides the most granular data available, covering 236 industries, 488 commodities and 278 final demand categories. The Alberta I/O model is based on "Detailed Confidential" level data, but analysis can be done at the "Summary" aggregation level, as well as two intermediate aggregation levels, "Link 1961" and "Link 1997".

The Alberta model has a tax module that provides impacts on federal, provincial and local tax revenues. The model also estimates the number of jobs required for any given impact. There is also the ability to do customized runs for different tax and wage scenarios.

A "Safety Net" feature was added to the model in 2011. This enables the assumption that a certain number of jobs required for a change in output of a project will come from people who are receiving employment insurance. When this new feature is activated, the induced impacts resulting from a project will be lower. This means that the amount of additional income earned will be lower than if those employees had not been receiving employment insurance benefits. This publication includes both Closed model results without a "Safety Net" and Closed model values with this feature activated.

# Alberta Economic Multipliers

The most common application of I/O models are the economic multipliers, which are generated by the I/O model for industries and commodities. Economic multipliers capture the impact of shocks to the economy on output, labour income, employment and GDP. They enable users to do impact analysis without getting into the detailed analysis associated with the I/O models.

## Limitations of I/O Multipliers

Economic mulitpliers are subject to the same caveats and limitations as the I/O models. This includes the caveats associated with fixed prices, production technology and capacity. In addition, there are several other things to keep in mind when using multipliers:

- Multipliers are specific to regions and economies. The multipliers in this publication are for the Alberta economy, and thus cannot be used to estimate impacts for other jurisdictions.
- The size and interpretation of a multiplier depend on how it is defined. There are multipliers that measure the impact on gross output, while others measure GDP, which is often more desirable because GDP multipliers eliminate the double-counting of expenditures (or benefits). It is important to carefully consider which multiplier is appropriate for a project.
- Impacts reflect the structure of the economy and industry linkages at a point in time, i.e., 2013. If these linkages have changed, the calculation of the impacts in another year (e.g., 2017) will be less valid. Generally, the more removed the year of analysis from the year of the multipliers, the greater the limitations.
- Since I/O models are static, the multipliers do not give any indication about the time it takes for changes to happen.

## Alberta Multiplier Structure

### Open and Closed Multipliers

There are two main kinds of multipliers presented in this publication: Open and Closed. Open multipliers reflect only direct and indirect effects, whereas Closed multipliers account for induced impacts in addition to direct and indirect effects. This approach allows users to use both versions for the purposes of analysis and to judge for themselves where the inclusion of induced impacts is warranted or advisable.

### Simple/Total Multipliers and Type I/II Multipliers

The Open multipliers presented in this publication are expressed in two forms: as Simple multipliers and as Type I multipliers. The Closed version of these multipliers are called Total multipliers and Type II multipliers, respectively. In this publication, Simple / Total multipliers are arranged by industry and by commodity, whereas Type I/II multipliers are arranged by industry only.

Please note that in editions prior to the current publication, Simple/Total multipliers were called "Intensity Ratios", while Type I/II multipliers were labeled "Industry Multipliers". The revision of terminology was done in order to be more consistent with the terminology employed by Statistics Canada. However, there was no change in the methodology.

Simple/Total multipliers, whether by industry or by commodity, are calculated by dividing the total economic impact by the change in output. For example, if an industry increases its output by $5.0 million and this leads to an increase of $4.0 million in Alberta GDP, the multiplier value would be 0.80 (i.e., 4.0 divided by 5.0).

Type I/II multipliers are calculated by taking the total impact observed for a change in an economic variable and dividing it by the direct change. For example, if 100 jobs directly attributable to an industry (direct employment) correspond to 180 jobs (total employment) in the economy overall, the industry employment multiplier would be 1.8.

Simple/Total multipliers require only information on gross output or expenditure to calculate the suite of economic impacts, whereas Type I/II multipliers have to be applied to the direct change in the economic indicator of interest. Thus, Simple/Total multipliers are most typically utilized since the direct change in revenue or expenditure is known, but not the direct change in other economic indicators.

### Basic and Purchaser Prices

Simple/Total multipliers by commodity are presented at both basic and purchaser prices. Data that are measured at basic prices reflect the price received directly by the producer of the commodity. For example, this corresponds to the "farm gate" price in agriculture or the price received directly by a producing establishment in manufacturing.

Data measured at purchaser prices reflects the price paid by the final users of the commodity. This price, in addition to the price received by the producer of the commodity, reflects other costs such as the price of transportation from the producer to the final seller; wholesale and retail mark-ups; and commodity indirect taxes. These other costs, which are added to basic prices to derive purchaser prices, are referred to as margins. The model treats these margins as if they were purchased directly by the purchaser of the final good.

### Commodity Supply Ratios

Most commodities consumed in Alberta, either as intermediate inputs or through final demand, are not fully produced in Alberta. Often a portion is imported from other parts of Canada or internationally. Table 13 shows the Alberta Commodity Supply Ratios, summarizing the proportion of the supply that comes from within and outside Alberta for each major commodity group. For instance, 80.5 percent of forestry products and services (code: M11E0) are produced in Alberta, while 18.9 percent come from the rest of Canada and 0.6 percent come from the rest of the world.

Note that the multipliers presented in this publication reflect the impact of output produced in Alberta only. This means that Table 13 should always be applied whenever a commodity is being purchased to remove imports, thereby determining the actual value of Alberta-based output. For example, a purchase of $1,000,000 of forestry products and services:

- Alberta output: $1,000,000 * 80.5% = $805,000
- Calculation: $805,000 * **multiplier** = IMPACT

If the analysis revolves around the *production* of a commodity, rather than the purchasing of the commodity, then the application of Table 13 is not necessary.

## Application of the Alberta Multipliers

Due to the limitations of the I/O model, it is unlikely that many of the assumptions and caveats associated with the multipliers would hold fully in the real world. It is important to understand the limitations and apply the multipliers in a reasonable way.

The most common application of multipliers is to estimate the economic impact associated with the establishment of a new firm, or the expansion of existing firms (or firm closure/contraction). In these cases, it is preferable to use economic multipliers for relative, rather than absolute, comparisons. This means that while economic multiplier analysis may be used to determine which activity has the largest economic impact, it should not be used to estimate the absolute impact of any single activity. Where multipliers are used to estimate the impacts of a single activity, the results should be treated as general estimates only and not as absolute values.

Projects that rely more on locally produced commodities generate higher impacts than those that rely primarily on imports. The greater the linkages between an industry and other parts of the economy, and the greater the value of these linkages, the larger the industry's multiplier.

Since the I/O model describes the Alberta economy in 2013, it is highly recommended to adjust all dollar values to 2013 prices using appropriate price deflator(s), such as the Consumer Price Index, in order to better capture the actual volumes of commodities associated with the impacts.

Employment multipliers show the total number of jobs required to support the change in activity being considered, but do not indicate the number of new jobs created. When the economy is running at full employment, it is important to remember that the number of jobs required for a particular project must come from other projects/industries or from outside the province. As indicated above, the I/O model assumes unlimited capacity, whereas in reality, there is a limited number of people in the workforce. Note that all employment impacts referenced throughout this document are measured in person-years.

The industry multipliers in this publication are at the "Link 1961" level of aggregation, while the commodity multipliers are provided at the "Summary" level. For more detailed impact analysis that considers industries or commodities at a more granular level, it may be necessary to do a custom run through Alberta Treasury Board and Finance. If users wish to exercise this option, they should contact Alberta Treasury Board and Finance directly.

# Description of Economic Multiplier Tables

In this publication, economic multipliers are presented for GDP at basic prices, labour income, employment and total output. Below is a brief description of each of the tables contained in this publication and how they should be used. Tables 1 through 4 present results from the Open model, Tables 5 through 8 present results from the Closed model without a Safety Net, and Tables 9 through 12 present results from the Closed model with a Safety Net activated. Table 13 presents commodity supply ratios for Alberta.

For simplicity, all dollar values below are at 2013 prices.

### Table 1: Simple Multipliers By Industry

Open Model

Table 1 presents Simple Multipliers by industry that measure the direct and indirect effects on the Alberta economy due to a change in output for each of the 106 major industries.

The impacts on GDP, labour income and gross production are expressed as impacts per dollar of output change, while employment impacts are expressed as the number of jobs per $10,000 of output.

*Example:*
If there was a $1 million increase in the output of the Residential Building Construction industry (code: BS23A00), the economic impacts would be as follows:

- The impact on GDP at basic prices: 0. 645* $1,000,000 = $645,000.
- The impact on labour income: 0.352 * $1,000,000 = $352,000.
- The impact on employment required: $1,000,000/$10,000 * 0.052 = 5.2 jobs.
- The impact on total output: 1.486 * $1,000,000 = $1,486,000.

### Table 2: Type I Multipliers

Open Model

Table 2 consists of multipliers (direct and indirect) for industries. To use these multipliers, the user must know the direct increase in GDP at basic prices, labour income and the direct number of jobs for which the economic impacts are being analyzed.

- To use the GDP multiplier, the direct GDP content associated with some change in output must be known or calculated. The components of direct GDP at basic prices are those items which make up labour income, net taxes on production and a firm's operating surplus (profits, depreciation, etc.). The GDP multiplier is applied to this value.
- To use the labour income multiplier, the direct increase in wages, supplementary labour income and labour income of unincorporated sector must be known or estimated. The labour income multiplier is then applied to this value.
- The employment multiplier is expressed in terms of total number of jobs per direct job. For example, if a firm in Residential Building Construction industry (code: BS23A00) was established and employed 100 people directly, a total of 100 * 1.485 = 148.5 jobs would be required (i.e., 100 direct jobs, plus an additional 48.5 indirect jobs). Please note that the multiplier does not distinguish between employee jobs and self-employed jobs (including persons working in a family business without pay).
- The output multiplier is expressed in terms of total gross production per dollar of direct production.

### Table 3: Simple Multipliers By Commodity at Basic Prices

Open Model

Table 3 presents multipliers for the direct and indirect effects on the Alberta economy due to a change in output for each of the 63 commodity groups.

The impacts on GDP and labour income are expressed as impacts per dollar of output change, while employment impacts are expressed as the number of jobs per $10,000 of output. Table 3 presents results calculated for data at basic prices.

*Example:*
If output of live animals (code: M112A) increased by $10 million in Alberta, the economic impacts would be as follows:

- The impact on GDP at basic prices:
  0.412 * $10,000,000 = $4,120,000.
- The impact on labour income:
  0.243 * $10,000,000 = $2,430,000.
- The impact on employment required:
  $10,000,000/$10,000 * 0.112 = 112.0 jobs.
- The impact on output:
  2.663 * $1,000,000 = $26,630,000.

### Table 4: Simple Multipliers By Commodity at Purchaser Prices

Open Model

Table 4 is analogous to Table 3 except that it presents results for data at purchaser prices.

### Table 5: Total Multipliers By Industry

Closed Model

Table 5 is analogous to Table 1, except that it presents results for the closed model, which includes induced impacts in addition to the direct and indirect effects.

### Table 6: Type II Multipliers

Closed Model

Table 6 is analogous to Table 2 except that it presents results for the closed model, which includes induced impacts in addition to the direct and indirect effects.

### Table 7: Total Multipliers By Commodity at Basic Prices

Closed Model

Table 7 is analogous to Table 3, except that it presents results for the closed model, which includes induced impacts in addition to the direct and indirect effects.

### Table 8: Total Multipliers By Commodity at Purchaser Prices

Closed Model

Table 8 is analogous to Table 4, except that it presents results for the closed model, which includes induced impacts in addition to the direct and indirect effects.

### Table 9: Total Multipliers By Industry

Closed Model with Safety Net

Table 9 is analogous to Table 5, except that the results are presented with a "Safety Net" activated.

### Table 10: Type II Multiplers

Closed Model with Safety Net

Table 10 is analogous to Table 6, except that the results are presented with a "Safety Net" activated.

### Table 11: Total Multipliers By Commodity at Basic Prices

Closed Model with Safety Net

Table 11 is analogous to Table 7, except that the results are presented with a "Safety Net" activated.

### Table 12: Total Multipliers By Commodity at Purchaser Prices

Closed Model with Safety Net

Table 12 is analogous to Table 8, except that the results are presented with a "Safety Net" activated.

### Table 13: Commodity Supply Ratios

Percent

Table 13 shows the source of supply for commodities purchased in Alberta. The data is presented as a percent for Alberta, for the rest of Canada and for the rest of the world. This table indicates both the extent of "openness" of the Alberta economy and the degree to which the economy depends on imports. For example, 80.5% of forestry products and services (code: M11E0) purchased in Alberta were supplied by Alberta domestic production, 18.9% were imported from the rest of Canada, and 0.6% were imported from outside Canada.

# Application of Economic Multipliers

The following example shows how the multipliers are used. In this example, the goal is to analyze which of two projects will provide a greater economic impact on the Alberta economy.

In general, the information available to do the analysis will determine which multiplier is most appropriate to use. For the purposes of this example, the results are presented for the Open model only. The same calculations can be done using the appropriate Closed model tables.

For proper application of the multipliers, all dollar values should be adjusted to 2013 prices using appropriate price deflator(s). For simplicity, all dollar values below are presented at 2013 prices.

The following information is available:

**Project 1: Construction of an establishment in the Wood Product Manufacturing Industry**

The plant (establishment) will cost $4 million (at basic prices) to build in 2017. A further $1 million (at purchaser prices) will be spent purchasing industrial machinery. When in operation in 2018, the plant will provide 12 jobs and generate annual sales of $3 million (at basic prices) with the distribution of costs outlined below. For simplicity, net taxes on production and products are ignored.

**Project 2: Expansion of output by an establishment in the Wholesale Trade Industry**

This project expands production by $3.2 million (at basic prices) in 2017 and 2018.

Analysis of Project 1

To analyze the impact of Project 1, it is necessary to divide the project into two phases. The first phase occurs in 2017 and involves the effects of constructing the plant and purchasing the machinery. The second phase is the economic impacts of the yearly output of the plant beginning in 2018.

*Construction Phase of Project 1:*

For the impacts associated with the construction of the plant, the appropriate economic multipliers can be found in Table 1. In this case, the industry here is Non-Residential Building Construction (code: BS23B00).

The construction phase during 2017 would have the following effects:

- The impact on GDP at basic prices: 0.633 * $4,000,000 = $2,532,000.
- The impact on labour income: 0.373* $4,000,000 = $1,492,000.
- Employment required: $4,000,000/$10,000 * 0.048 = 19.2 jobs.

The impacts of purchasing the industrial machinery (M3330) in 2017 are estimated by using the appropriate economic multipliers in Table 4. Since a commodity is being purchased, Table 13 must be applied to account for the proportion of output coming from Alberta. According to Table 13, 27.6 percent of the industrial machinery purchased in Alberta is produced in the province, so the value of the machinery purchased must be adjusted to reflect this.

The calculated impacts due to machinery purchases are as follows:

- Total value of Alberta machinery: 27.6% * $1,000,000 = $276,000.
- The impact on GDP at basic prices: 0.434* $276,000 = $118,784.
- The impact on labour income: 0.256 * $276,000 = $70,656.
- Employment required: $276,000/$10,000 * 0.029 = 1.0 jobs.

Alberta clearly derives more economic benefit from the construction activity associated with Project 1 than it does from the purchase of industrial machinery. This is partly due to the higher Alberta content for construction (i.e., local labour and materials) compared with machinery, which is predominately produced outside the province.

*Operations Phase of Project 1:*

The second phase of impacts associated with Project 1 involves the actual operation of the plant, which would begin operations in 2018. For this phase, the industry tables are used, since the impacts associated with the output of a particular industry are being analyzed. Since both the value of direct output and a breakdown of inputs have been given, either Simple multipliers (Table 1) or Type I multipliers (Table 2) can be used. To use Table 1, the procedure is to locate the appropriate industry and apply the ratios to the value of output. Here, information for the Wood Product Manufacturing industry (BS32100) is used, yielding the following impacts:

- The impact on GDP at basic prices:
  0.694 * $3,000,000 = $2,082,000.
- The impact on labour income:
  0.411 * $3,000,000 = $1,233,000.
- Employment required:
  $3,000,000/$10,000 * 0.044 = 13.2 jobs

Since detailed cost information has been provided, the Type I multipliers provided in Table 2 can also be used. The first step is to analyze the categories for which cost information has been provided and identify which of these enter into the establishment's operating surplus and thereby directly into GDP at basic prices. As a rule, wages, profits and depreciation are primary inputs (not purchased from another industry) and go directly into GDP. If overhead consists of salaries for administration (as is assumed in this case), this category also enters directly into GDP. Materials and other purchased inputs are not considered as direct GDP since they are purchased from other industries and involve indirect economic impacts.

Therefore, the cost categories can be allocated as follows:

| | (000s) | |
|---|---|---|
| Wages | $ 825 | Direct GDP |
| Profit | $ 100 | Direct GDP |
| Depreciation | $ 200 | Direct GDP |
| Overhead | $ 25 | Direct GDP |
| **Subtotal** | **$ 1,150** | **Direct GDP** |
| Materials | $ 1,850 | Indirect Output |
| Total | $ 3,000 | |

Thus, $1,150,000 out of the firm's $3 million gross output constitutes its direct contribution to GDP at basic prices.

Included in this contribution is an estimated $850,000 ($825,000 + $25,000) of direct labour income and 12 direct jobs to which the appropriate multipliers from Table 2 (Wood Product Manufacturing, code: BS32100) would be applied. The impacts are below, based on Table 2:

- The impact on GDP at basic prices:
  1.804 * $1,150,000 = $2,074,600.
- The impact on labour income:
  1.701 * $850,000 = $1,445,850.
- Employment required:
  1.914 * 12.0 direct jobs = 23 jobs.

In this example, the results using multipliers from Table 2 are similar to those calculated using the Simple multipliers from Table 1. In practice, the multipliers from Table 2 should be used in preference to the intensity ratios from Table 1. Intensity ratios assume an "average" direct contribution to labour income, GDP at basic prices and employment; these factors can vary significantly from industry averages for particular firms. Generally, a more accurate result can be obtained by using actual data for firms and Type I (or II) multipliers rather than the industry averages implied in the Simple (Total) multipliers. However, to use Table 2, one must already know the direct impacts on GDP.

### Analysis of Project 2

The only information provided for Project 2 is that output will increase by $3.2 million at 2013 prices in both 2017 and 2018 for an establishment in the Wholesale Trade industry (code: BS41000). Since only industry data on output have been provided, one of the industry tables must be used (Table 1 or 2). As there is no breakdown of costs provided, multipliers from Table 1, rather than the multipliers from Table 2, must be used.

The $3.2 million change in output is applied to each multiplier, yielding the following total impacts:

- Impact to GDP at basic prices:
  0.815 * $3,200,000 = $2,608,000
- Impact on labour income:
  0.461 * $3,200,000 = $1,475,200
- Employment required:
  $3,200,000/$10,000 * 0.055 = 17.6 jobs required.

Since the output is the same for 2017 and 2018 (i.e., $3.2 million), the impacts would be the same for both years.

## Comparison of the Two Projects

The last step in the analysis is to compare the results of the two projects. The following is a summary of the results (note that for Project 1, we have to combine the impacts of the construction activities and the industrial machinery purchases to get total impact for 2017):

| | Project 1 | Project 2 |
|---|---|---|
| GDP ($000s): | | |
| 2017 | 2,651 | 2,608 |
| 2018 | 2,082 | 2,608 |
| Labour Income ($000s): | | |
| 2017 | 1,563 | 1,475 |
| 2018 | 1,233 | 1,475 |
| Employment (Jobs): | | |
| 2017 | 20.2 | 17.6 |
| 2018 | 13.2 | 17.6 |

It is clear that Project 1 has the larger economic impact for 2017. This result is largely due to the construction phase of the plant. If a longer term view is taken, then Project 2 may in fact yield the larger economic benefit. This can be seen by comparing impacts for 2018, for which Project 2 has a greater effect on GDP, labour income and employment.

It must be remembered that when the economy is in a phase of full employment, an increase in resources in one project may draw resources from other industries, reducing the overall impact. Furthermore, the multipliers used in the above examples reflect the structure of the economy and industry linkages in 2013. If these linkages were to have changed materially by 2017 or 2018, the impacts calculated above will be less valid.

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# Table 1: Alberta Simple Multipliers (Industries)

## Open Model - Direct and Indirect Impacts

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS11A00 | Crop and animal production | 0.587 | 0.171 | 0.062 | 1.917 |
| BS11300 | Forestry and logging | 0.657 | 0.454 | 0.053 | 1.760 |
| BS11400 | Fishing, hunting and trapping | 0.862 | 0.242 | 0.074 | 1.265 |
| BS11500 | Support activities for agriculture and forestry | 0.777 | 0.445 | 0.086 | 1.402 |
| BS21100 | Oil and gas extraction | 0.782 | 0.221 | 0.019 | 0.786 |
| BS21210 | Coal mining | 0.739 | 0.534 | 0.036 | 1.451 |
| BS21220 | Metal ore mining | 0.663 | 0.172 | 0.059 | 1.388 |
| BS21230 | Non-metallic mineral mining and quarrying | 0.738 | 0.317 | 0.034 | 1.392 |
| BS21300 | Support activities for mining and oil and gas extraction | 0.787 | 0.429 | 0.038 | 1.273 |
| BS22110 | Electric power generation, transmission and distribution | 0.819 | 0.423 | 0.032 | 1.360 |
| BS221A0 | Natural gas distribution, water, sewage and other systems | 0.905 | 0.361 | 0.041 | 1.267 |
| BS23A00 | Residential building construction | 0.645 | 0.352 | 0.052 | 1.486 |
| BS23B00 | Non-residential building construction | 0.633 | 0.373 | 0.048 | 1.529 |
| BS23C10 | Transportation engineering construction | 0.628 | 0.381 | 0.059 | 1.758 |
| BS23C20 | Oil and gas engineering construction | 0.671 | 0.427 | 0.049 | 1.631 |
| BS23C30 | Electric power engineering construction | 0.730 | 0.311 | 0.029 | 1.380 |
| BS23C40 | Communication engineering construction | 0.504 | 0.297 | 0.038 | 1.529 |
| BS23C50 | Other engineering construction | 0.648 | 0.401 | 0.042 | 1.575 |
| BS23D00 | Repair construction | 0.637 | 0.409 | 0.055 | 1.497 |
| BS23E00 | Other activities of the construction industry | 0.743 | 0.170 | 0.036 | 1.313 |
| BS31110 | Animal food manufacturing | 0.433 | 0.228 | 0.035 | 1.700 |
| BS31130 | Sugar and confectionery product manufacturing | 0.490 | 0.220 | 0.043 | 1.295 |
| BS31140 | Fruit and vegetable preserving and specialty food manufacturing | 0.529 | 0.286 | 0.043 | 1.472 |
| BS31150 | Dairy product manufacturing | 0.724 | 0.336 | 0.062 | 2.689 |
| BS31160 | Meat product manufacturing | 0.414 | 0.285 | 0.059 | 2.313 |
| BS31170 | Seafood product preparation and packaging | 0.465 | 0.212 | 0.116 | 1.451 |
| BS311A0 | Miscellaneous food manufacturing | 0.619 | 0.231 | 0.039 | 2.019 |
| BS31211 | Soft drink and ice manufacturing | 0.560 | 0.363 | 0.045 | 1.527 |
| BS31212 | Breweries | 0.773 | 0.238 | 0.032 | 1.295 |
| BS3121A | Wineries and distilleries | 0.716 | 0.188 | 0.023 | 1.423 |
| BS31220 | Tobacco manufacturing | 0.000 | 0.000 | 0.000 | 0.000 |

# Table 1

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS31A00 | Textile and textile product mills | 0.567 | 0.379 | 0.104 | 1.253 |
| BS31B00 | Clothing and leather and allied product manufacturing | 0.563 | 0.412 | 0.125 | 1.301 |
| BS32100 | Wood product manufacturing | 0.694 | 0.411 | 0.044 | 1.727 |
| BS32210 | Pulp, paper and paperboard mills | 0.537 | 0.327 | 0.030 | 1.602 |
| BS32220 | Converted paper product manufacturing | 0.430 | 0.328 | 0.039 | 1.304 |
| BS32300 | Printing and related support activities | 0.684 | 0.410 | 0.061 | 1.358 |
| BS32400 | Petroleum and coal product manufacturing | 0.781 | 0.106 | 0.012 | 3.328 |
| BS32510 | Basic chemical manufacturing | 0.737 | 0.143 | 0.014 | 1.665 |
| BS32530 | Pesticide, fertilizer and other agricultural chemical manufacturing | 0.670 | 0.178 | 0.020 | 1.873 |
| BS32540 | Pharmaceutical and medicine manufacturing | 0.606 | 0.242 | 0.026 | 1.531 |
| BS325C0 | Miscellaneous chemical product manufacturing | 0.529 | 0.393 | 0.056 | 1.334 |
| BS32610 | Plastic product manufacturing | 0.555 | 0.304 | 0.037 | 1.375 |
| BS32620 | Rubber product manufacturing | 0.563 | 0.360 | 0.041 | 1.361 |
| BS327A0 | Non-metallic mineral product manufacturing (except cement and concrete products) | 0.633 | 0.330 | 0.046 | 1.446 |
| BS32730 | Cement and concrete product manufacturing | 0.681 | 0.323 | 0.043 | 1.527 |
| BS33100 | Primary metal manufacturing | 0.337 | 0.247 | 0.023 | 1.394 |
| BS33200 | Fabricated metal product manufacturing | 0.607 | 0.381 | 0.044 | 1.365 |
| BS33300 | Machinery manufacturing | 0.558 | 0.328 | 0.037 | 1.329 |
| BS33410 | Computer and peripheral equipment manufacturing | 0.573 | 0.428 | 0.049 | 1.238 |
| BS334B0 | Electronic product manufacturing | 0.534 | 0.325 | 0.030 | 1.192 |
| BS335A0 | Electrical equipment and component manufacturing | 0.532 | 0.358 | 0.036 | 1.288 |
| BS33520 | Household appliance manufacturing | 0.570 | 0.441 | 0.054 | 1.588 |
| BS33610 | Motor vehicle manufacturing | 1.445 | 0.361 | 0.109 | 1.448 |
| BS33620 | Motor vehicle body and trailer manufacturing | 0.527 | 0.344 | 0.055 | 1.301 |
| BS33630 | Motor vehicle parts manufacturing | 0.493 | 0.358 | 0.057 | 1.333 |
| BS33640 | Aerospace product and parts manufacturing | 0.537 | 0.356 | 0.026 | 1.195 |
| BS33650 | Railroad rolling stock manufacturing | 0.564 | 0.325 | 0.132 | 1.253 |
| BS33660 | Ship and boat building | 0.479 | 0.329 | 0.076 | 1.275 |
| BS33690 | Other transportation equipment manufacturing | 0.485 | 0.331 | 0.048 | 1.411 |
| BS33700 | Furniture and related product manufacturing | 0.607 | 0.412 | 0.074 | 1.411 |
| BS33900 | Miscellaneous manufacturing | 0.643 | 0.400 | 0.051 | 1.335 |

# Table 1

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS41000 | Wholesale trade | 0.815 | 0.461 | 0.055 | 1.364 |
| BS4A000 | Retail trade | 0.836 | 0.551 | 0.127 | 1.406 |
| BS48100 | Air transportation | 0.566 | 0.375 | 0.054 | 1.650 |
| BS48200 | Rail transportation | 0.842 | 0.459 | 0.045 | 1.441 |
| BS48300 | Water transportation | 0.678 | 0.341 | 0.042 | 1.248 |
| BS48400 | Truck transportation | 0.688 | 0.393 | 0.055 | 1.641 |
| BS48B00 | Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation | 0.843 | 0.568 | 0.101 | 1.470 |
| BS48600 | Pipeline transportation | 0.899 | 0.203 | 0.014 | 1.264 |
| BS49A00 | Postal service, couriers and messengers | 0.798 | 0.558 | 0.120 | 1.445 |
| BS49300 | Warehousing and storage | 0.847 | 0.576 | 0.098 | 1.267 |
| BS51200 | Motion picture and sound recording industries | 0.634 | 0.267 | 0.098 | 1.328 |
| BS51510 | Radio and television broadcasting | 0.656 | 0.420 | 0.067 | 1.258 |
| BS51B00 | Publishing, pay/specialty services, telecommunications and other information services | 0.802 | 0.266 | 0.034 | 1.270 |
| BS52B00 | Depository credit intermediation and monetary authorities | 0.829 | 0.436 | 0.061 | 1.304 |
| BS52410 | Insurance carriers | 0.724 | 0.345 | 0.049 | 1.910 |
| BS53110 | Lessors of real estate | 0.836 | 0.214 | 0.039 | 1.395 |
| BS5311A | Owner-occupied dwellings | 0.973 | 0.023 | 0.003 | 1.147 |
| BS53B00 | Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works) | 0.791 | 0.366 | 0.047 | 1.365 |
| BS5A000 | Other finance, insurance and real estate services and management of companies and enterprises | 0.732 | 0.487 | 0.078 | 1.734 |
| BS541C0 | Legal, accounting and architectural, engineering and related services | 0.795 | 0.500 | 0.062 | 1.316 |
| BS541D0 | Computer systems design and other professional, scientific and technical services | 0.811 | 0.553 | 0.070 | 1.341 |
| BS54180 | Advertising, public relations, and related services | 0.745 | 0.476 | 0.080 | 1.466 |
| BS56100 | Administrative and support services | 0.824 | 0.562 | 0.109 | 1.292 |
| BS56200 | Waste management and remediation services | 0.891 | 0.331 | 0.046 | 1.228 |
| BS61000 | Educational services | 0.809 | 0.511 | 0.196 | 1.369 |
| BS62000 | Health care and social assistance | 0.860 | 0.453 | 0.096 | 1.222 |
| BS71000 | Arts, entertainment and recreation | 0.742 | 0.511 | 0.151 | 1.451 |

# Table 1

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS72000 | Accommodation and food services | 0.711 | 0.483 | 0.146 | 1.354 |
| BS81100 | Repair and maintenance | 0.799 | 0.508 | 0.082 | 1.324 |
| BS81A00 | Personal services and private households | 0.676 | 0.363 | 0.134 | 1.106 |
| BS81300 | Professional and similar organizations | 0.687 | 0.855 | 0.152 | 1.456 |
| NP61000 | Educational services | 0.837 | 0.727 | 0.145 | 1.167 |
| NP62400 | Social assistance | 0.864 | 0.778 | 0.192 | 1.215 |
| NP71000 | Arts, entertainment and recreation | 0.710 | 0.529 | 0.155 | 1.471 |
| NP81310 | Religious organizations | 0.771 | 0.608 | 0.152 | 1.416 |
| NPA0000 | Miscellaneous non-profit institutions serving households | 0.753 | 0.592 | 0.132 | 1.456 |
| GS611B0 | Educational services (except universities) | 0.873 | 0.754 | 0.113 | 1.207 |
| GS61130 | Universities | 0.885 | 0.524 | 0.073 | 1.171 |
| GS62200 | Hospitals | 0.819 | 0.705 | 0.076 | 1.345 |
| GS62300 | Nursing and residential care facilities | 0.897 | 0.789 | 0.103 | 1.244 |
| GS91100 | Other federal government services | 0.838 | 0.665 | 0.067 | 1.340 |
| GS91200 | Other provincial and territorial government services | 0.856 | 0.502 | 0.069 | 1.763 |
| GS91300 | Other municipal government services | 0.818 | 0.479 | 0.060 | 1.325 |
| GS91400 | Other aboriginal government services | 0.818 | 0.615 | 0.024 | 1.587 |

**Notes:** Simple/Total multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change. Simple/Total multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 2: Alberta Type I Multipliers (Industries)

## Open Model - Direct and Indirect Impacts

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS11A00 | Crop and animal production | 1.800 | 3.584 | 2.015 | 1.917 |
| BS11300 | Forestry and logging | 2.102 | 1.755 | 2.033 | 1.760 |
| BS11400 | Fishing, hunting and trapping | 1.199 | 1.469 | 1.172 | 1.265 |
| BS11500 | Support activities for agriculture and forestry | 1.323 | 1.293 | 1.219 | 1.402 |
| BS21100 | Oil and gas extraction | 1.370 | 1.812 | 2.776 | 0.786 |
| BS21210 | Coal mining | 1.461 | 1.257 | 1.698 | 1.451 |
| BS21220 | Metal ore mining | 1.420 | 2.545 | 1.343 | 1.388 |
| BS21230 | Non-metallic mineral mining and quarrying | 1.356 | 1.436 | 1.601 | 1.392 |
| BS21300 | Support activities for mining and oil and gas extraction | 1.204 | 1.180 | 1.301 | 1.273 |
| BS22110 | Electric power generation, transmission and distribution | 1.324 | 1.274 | 1.509 | 1.360 |
| BS221A0 | Natural gas distribution, water, sewage and other systems | 1.198 | 1.213 | 1.266 | 1.267 |
| BS23A00 | Residential building construction | 1.525 | 1.523 | 1.485 | 1.486 |
| BS23B00 | Non-residential building construction | 1.626 | 1.560 | 1.619 | 1.529 |
| BS23C10 | Transportation engineering construction | 2.203 | 1.970 | 1.719 | 1.758 |
| BS23C20 | Oil and gas engineering construction | 1.802 | 1.534 | 1.566 | 1.631 |
| BS23C30 | Electric power engineering construction | 1.318 | 1.439 | 1.791 | 1.380 |
| BS23C40 | Communication engineering construction | 1.982 | 1.827 | 1.973 | 1.529 |
| BS23C50 | Other engineering construction | 1.676 | 1.560 | 1.817 | 1.575 |
| BS23D00 | Repair construction | 1.560 | 1.445 | 1.472 | 1.497 |
| BS23E00 | Other activities of the construction industry | 1.269 | 1.901 | 1.475 | 1.313 |
| BS31110 | Animal food manufacturing | 2.274 | 2.035 | 3.166 | 1.700 |
| BS31130 | Sugar and confectionery product manufacturing | 1.356 | 1.473 | 1.530 | 1.295 |
| BS31140 | Fruit and vegetable preserving and specialty food manufacturing | 1.716 | 1.730 | 2.160 | 1.472 |
| BS31150 | Dairy product manufacturing | 3.104 | 3.245 | 3.113 | 2.689 |
| BS31160 | Meat product manufacturing | 2.923 | 2.563 | 3.191 | 2.313 |
| BS31170 | Seafood product preparation and packaging | 2.217 | 1.980 | 1.150 | 1.451 |
| BS311A0 | Miscellaneous food manufacturing | 2.020 | 2.073 | 2.105 | 2.019 |
| BS31211 | Soft drink and ice manufacturing | 1.700 | 1.511 | 1.898 | 1.527 |
| BS31212 | Breweries | 1.214 | 1.398 | 1.550 | 1.295 |
| BS3121A | Wineries and distilleries | 1.276 | 1.538 | 1.802 | 1.423 |
| BS31220 | Tobacco manufacturing | 0.000 | 0.000 | 0.000 | 0.000 |

# TABLE 2

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS31A00 | Textile and textile product mills | 1.286 | 1.228 | 1.118 | 1.253 |
| BS31B00 | Clothing and leather and allied product manufacturing | 1.365 | 1.259 | 1.123 | 1.301 |
| BS32100 | Wood product manufacturing | 1.804 | 1.701 | 1.914 | 1.727 |
| BS32210 | Pulp, paper and paperboard mills | 1.948 | 1.659 | 2.139 | 1.602 |
| BS32220 | Converted paper product manufacturing | 1.471 | 1.289 | 1.369 | 1.304 |
| BS32300 | Printing and related support activities | 1.354 | 1.306 | 1.303 | 1.358 |
| BS32400 | Petroleum and coal product manufacturing | 3.624 | 6.134 | 8.572 | 3.328 |
| BS32510 | Basic chemical manufacturing | 1.608 | 2.695 | 4.728 | 1.665 |
| BS32530 | Pesticide, fertilizer and other agricultural chemical manufacturing | 2.111 | 2.551 | 3.051 | 1.873 |
| BS32540 | Pharmaceutical and medicine manufacturing | 1.717 | 1.811 | 2.305 | 1.531 |
| BS325C0 | Miscellaneous chemical product manufacturing | 1.417 | 1.256 | 1.234 | 1.334 |
| BS32610 | Plastic product manufacturing | 1.450 | 1.420 | 1.512 | 1.375 |
| BS32620 | Rubber product manufacturing | 1.417 | 1.344 | 1.430 | 1.361 |
| BS327A0 | Non-metallic mineral product manufacturing (except cement and concrete products) | 1.501 | 1.472 | 1.484 | 1.446 |
| BS32730 | Cement and concrete product manufacturing | 1.546 | 1.613 | 1.616 | 1.527 |
| BS33100 | Primary metal manufacturing | 2.002 | 1.607 | 1.953 | 1.394 |
| BS33200 | Fabricated metal product manufacturing | 1.382 | 1.311 | 1.394 | 1.365 |
| BS33300 | Machinery manufacturing | 1.397 | 1.324 | 1.391 | 1.329 |
| BS33410 | Computer and peripheral equipment manufacturing | 1.262 | 1.176 | 1.238 | 1.238 |
| BS334B0 | Electronic product manufacturing | 1.216 | 1.183 | 1.321 | 1.192 |
| BS335A0 | Electrical equipment and component manufacturing | 1.341 | 1.252 | 1.390 | 1.288 |
| BS33520 | Household appliance manufacturing | 1.927 | 1.515 | 1.597 | 1.588 |
| BS33610 | Motor vehicle manufacturing | 1.156 | 1.408 | 1.144 | 1.448 |
| BS33620 | Motor vehicle body and trailer manufacturing | 1.366 | 1.283 | 1.252 | 1.301 |
| BS33630 | Motor vehicle parts manufacturing | 1.492 | 1.313 | 1.288 | 1.333 |
| BS33640 | Aerospace product and parts manufacturing | 1.229 | 1.160 | 1.338 | 1.195 |
| BS33650 | Railroad rolling stock manufacturing | 1.276 | 1.234 | 1.069 | 1.253 |
| BS33660 | Ship and boat building | 1.359 | 1.264 | 1.145 | 1.275 |
| BS33690 | Other transportation equipment manufacturing | 1.753 | 1.421 | 1.318 | 1.411 |
| BS33700 | Furniture and related product manufacturing | 1.462 | 1.354 | 1.279 | 1.411 |
| BS33900 | Miscellaneous manufacturing | 1.335 | 1.286 | 1.336 | 1.335 |

# TABLE 2

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS41000 | Wholesale trade | 1.301 | 1.268 | 1.370 | 1.364 |
| BS4A000 | Retail trade | 1.349 | 1.271 | 1.182 | 1.406 |
| BS48100 | Air transportation | 1.842 | 1.715 | 1.718 | 1.650 |
| BS48200 | Rail transportation | 1.389 | 1.319 | 1.488 | 1.441 |
| BS48300 | Water transportation | 1.231 | 1.250 | 1.282 | 1.248 |
| BS48400 | Truck transportation | 1.777 | 1.650 | 1.665 | 1.641 |
| BS48B00 | Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation | 1.393 | 1.276 | 1.225 | 1.470 |
| BS48600 | Pipeline transportation | 1.191 | 1.444 | 2.755 | 1.264 |
| BS49A00 | Postal service, couriers and messengers | 1.387 | 1.282 | 1.201 | 1.445 |
| BS49300 | Warehousing and storage | 1.199 | 1.143 | 1.126 | 1.267 |
| BS51200 | Motion picture and sound recording industries | 1.371 | 1.566 | 1.219 | 1.328 |
| BS51510 | Radio and television broadcasting | 1.265 | 1.220 | 1.232 | 1.258 |
| BS51B00 | Publishing, pay/specialty services, telecommunications and other information services | 1.224 | 1.399 | 1.519 | 1.270 |
| BS52B00 | Depository credit intermediation and monetary authorities | 1.238 | 1.243 | 1.264 | 1.304 |
| BS52410 | Insurance carriers | 2.224 | 2.408 | 2.581 | 1.910 |
| BS53110 | Lessors of real estate | 1.348 | 1.872 | 1.632 | 1.395 |
| BS5311A | Owner-occupied dwellings | 1.116 | 0.000 | 0.000 | 1.147 |
| BS53B00 | Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works) | 1.310 | 1.366 | 1.471 | 1.365 |
| BS5A000 | Other finance, insurance and real estate services and management of companies and enterprises | 1.845 | 1.637 | 1.565 | 1.734 |
| BS541C0 | Legal, accounting and architectural, engineering and related services | 1.264 | 1.220 | 1.287 | 1.316 |
| BS541D0 | Computer systems design and other professional, scientific and technical services | 1.286 | 1.213 | 1.260 | 1.341 |
| BS54180 | Advertising, public relations, and related services | 1.511 | 1.410 | 1.375 | 1.466 |
| BS56100 | Administrative and support services | 1.231 | 1.175 | 1.136 | 1.292 |
| BS56200 | Waste management and remediation services | 1.153 | 1.229 | 1.254 | 1.228 |
| BS61000 | Educational services | 1.326 | 1.284 | 1.112 | 1.369 |
| BS62000 | Health care and social assistance | 1.158 | 1.167 | 1.125 | 1.222 |
| BS71000 | Arts, entertainment and recreation | 1.479 | 1.377 | 1.214 | 1.451 |

# TABLE 2

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS72000 | Accommodation and food services | 1.330 | 1.267 | 1.167 | 1.354 |
| BS81100 | Repair and maintenance | 1.270 | 1.217 | 1.213 | 1.324 |
| BS81A00 | Personal services and private households | 1.267 | 1.273 | 1.108 | 1.328 |
| BS81300 | Professional and similar organizations | 1.549 | 1.185 | 1.158 | 1.456 |
| NP61000 | Educational services | 1.115 | 1.065 | 1.049 | 1.167 |
| NP62400 | Social assistance | 1.150 | 1.087 | 1.056 | 1.215 |
| NP71000 | Arts, entertainment and recreation | 1.547 | 1.377 | 1.203 | 1.471 |
| NP81310 | Religious organizations | 1.394 | 1.235 | 1.139 | 1.416 |
| NPA0000 | Miscellaneous non-profit institutions serving households | 1.472 | 1.283 | 1.190 | 1.456 |
| GS611B0 | Educational services (except universities) | 1.152 | 1.100 | 1.099 | 1.207 |
| GS61130 | Universities | 1.115 | 1.100 | 1.110 | 1.171 |
| GS62200 | Hospitals | 1.294 | 1.222 | 1.271 | 1.345 |
| GS62300 | Nursing and residential care facilities | 1.165 | 1.103 | 1.111 | 1.244 |
| GS91100 | Other federal government services | 1.275 | 1.180 | 1.279 | 1.340 |
| GS91200 | Other provincial and territorial government services | 2.047 | 1.788 | 1.788 | 1.763 |
| GS91300 | Other municipal government services | 1.190 | 1.222 | 1.267 | 1.325 |
| GS91400 | Other aboriginal government services | 1.588 | 1.422 | 0.000 | 1.587 |

**Notes:** Type I/II multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change.
Type I/II multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 3: Alberta Simple Multipliers (Commodities at Basic Prices)

## Open Model - Direct and Indirect Impacts

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M111B | Grains and other crop products | 0.691 | 0.127 | 0.031 | 1.471 |
| M112A | Live animals | 0.412 | 0.243 | 0.112 | 2.663 |
| M11D0 | Other farm products | 0.414 | 0.243 | 0.112 | 2.658 |
| M11E0 | Forestry products and services | 0.655 | 0.445 | 0.052 | 1.753 |
| M1140 | Fish, crustaceans, shellfish and other fishery products | 0.651 | 0.199 | 0.064 | 1.521 |
| M1150 | Support services related to farming and forestry | 0.624 | 0.340 | 0.072 | 1.883 |
| M21B0 | Mineral fuels | 0.782 | 0.220 | 0.019 | 0.848 |
| M2122 | Metal ores and concentrates | 0.663 | 0.172 | 0.059 | 1.388 |
| M2123 | Non-metallic minerals | 0.748 | 0.287 | 0.032 | 1.068 |
| M2130 | Mineral support services | 0.770 | 0.489 | 0.052 | 1.369 |
| M21A0 | Mineral and oil and gas exploration | 0.787 | 0.398 | 0.035 | 1.106 |
| M2200 | Utilities | 0.835 | 0.406 | 0.038 | 1.345 |
| M23A0 | Residential construction | 0.645 | 0.352 | 0.052 | 1.486 |
| M23B0 | Non-residential buildings | 0.633 | 0.373 | 0.048 | 1.529 |
| M23C0 | Engineering construction | 0.670 | 0.415 | 0.048 | 1.621 |
| M23D0 | Repair construction services | 0.637 | 0.409 | 0.055 | 1.497 |
| M31C0 | Food and non-alcoholic beverages | 0.511 | 0.273 | 0.050 | 2.140 |
| M312A | Alcoholic beverages and tobacco products | 0.756 | 0.223 | 0.029 | 1.334 |
| M31D0 | Textile products, clothing, and products of leather and similar materials | 0.594 | 0.404 | 0.110 | 1.301 |
| M3210 | Wood products | 0.695 | 0.414 | 0.045 | 1.715 |
| M3220 | Wood pulp, paper and paper products and paper stock | 0.527 | 0.327 | 0.032 | 1.566 |
| M3230 | Printed products and services | 0.689 | 0.411 | 0.062 | 1.358 |
| M3240 | Refined petroleum products (except petrochemicals) | 0.780 | 0.108 | 0.012 | 3.277 |
| M3250 | Chemical products | 0.693 | 0.173 | 0.019 | 1.794 |
| M3260 | Plastic and rubber products | 0.563 | 0.309 | 0.037 | 1.385 |
| M3270 | Non-metallic mineral products | 0.668 | 0.325 | 0.044 | 1.505 |
| M3310 | Primary metallic products | 0.371 | 0.263 | 0.026 | 1.400 |
| M3320 | Fabricated metallic products | 0.600 | 0.375 | 0.043 | 1.365 |
| M3330 | Industrial machinery | 0.565 | 0.334 | 0.038 | 1.331 |
| M334C | Computers and electronic products | 0.544 | 0.337 | 0.032 | 1.210 |
| M3350 | Electrical equipment, appliances and components | 0.537 | 0.358 | 0.036 | 1.292 |
| M336A | Transportation equipment | 0.530 | 0.347 | 0.044 | 1.274 |
| M3363 | Motor vehicle parts | 0.548 | 0.387 | 0.056 | 1.336 |
| M3370 | Furniture and related products | 0.607 | 0.408 | 0.072 | 1.410 |
| M3B00 | Other manufactured products and custom work | 0.652 | 0.393 | 0.055 | 1.377 |
| M4100 | Wholesale margins and commissions | 0.808 | 0.457 | 0.055 | 1.367 |

# TABLE 3

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M4A00 | Retail margins, sales of used goods and commissions | 0.832 | 0.544 | 0.126 | 1.403 |
| M4B00 | Transportation and related services | 0.758 | 0.395 | 0.057 | 1.508 |
| M51D0 | Information and cultural services | 0.688 | 0.408 | 0.060 | 1.292 |
| M51E0 | Published and recorded media products | 0.804 | 0.423 | 0.064 | 1.351 |
| M5170 | Telecommunications | 0.811 | 0.241 | 0.032 | 1.265 |
| M52C0 | Depository credit intermediation | 0.849 | 0.445 | 0.061 | 1.262 |
| M5F00 | Other finance and insurance | 0.784 | 0.448 | 0.060 | 1.345 |
| M53D0 | Real estate, rental and leasing and rights to non-financial intangible assets | 0.816 | 0.291 | 0.046 | 1.389 |
| M53C0 | Imputed rental of owner-occupied dwellings | 0.973 | 0.023 | 0.003 | 1.147 |
| M541E | Professional services (except software and research and development) | 0.795 | 0.493 | 0.065 | 1.339 |
| M5E00 | Software | 0.802 | 0.484 | 0.060 | 1.269 |
| M5417 | Research and development | 0.836 | 0.452 | 0.054 | 1.161 |
| M5G00 | Administrative and support, head office, waste management and remediation services | 0.822 | 0.500 | 0.090 | 1.278 |
| M6100 | Education services | 0.861 | 0.590 | 0.120 | 1.252 |
| M6200 | Health and social assistance services | 0.856 | 0.496 | 0.097 | 1.242 |
| M7100 | Arts, entertainment and recreation services | 0.758 | 0.512 | 0.130 | 1.437 |
| M7200 | Accommodation and food services | 0.714 | 0.484 | 0.146 | 1.355 |
| M8100 | Other services | 0.806 | 0.529 | 0.104 | 1.321 |
| M9A00 | Sales of other services by Non-Profit Institutions Serving Households | 0.755 | 0.583 | 0.136 | 1.458 |
| M9B00 | Sales of other government services | 0.823 | 0.607 | 0.067 | 1.463 |
| N0000 | Services provided by Non-Profit Institutions Serving Households | 0.781 | 0.639 | 0.149 | 1.377 |
| G6100 | Education services provided by government sector | 0.874 | 0.708 | 0.105 | 1.198 |
| G6200 | Health services provided by government sector | 0.829 | 0.715 | 0.079 | 1.333 |
| G9110 | Other federal government services | 0.823 | 0.641 | 0.070 | 1.315 |
| G9120 | Other provincial and territorial government services | 0.774 | 0.489 | 0.068 | 1.827 |
| G9130 | Other municipal government services | 0.863 | 0.479 | 0.060 | 1.325 |
| G9140 | Other aboriginal government services | 0.818 | 0.615 | 0.024 | 1.587 |

**Notes:** Simple/Total multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change. Simple/Total multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 4: Alberta Simple Multipliers (Commodities at Purchaser Prices)

## Open Model - Direct and Indirect Impacts

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M111B | Grains and other crop products | 0.652 | 0.120 | 0.030 | 1.389 |
| M112A | Live animals | 0.400 | 0.236 | 0.109 | 2.585 |
| M11D0 | Other farm products | 0.388 | 0.228 | 0.105 | 2.488 |
| M11E0 | Forestry products and services | 0.650 | 0.442 | 0.052 | 1.739 |
| M1140 | Fish, crustaceans, shellfish and other fishery products | 0.533 | 0.163 | 0.053 | 1.245 |
| M1150 | Support services related to farming and forestry | 0.624 | 0.340 | 0.072 | 1.883 |
| M21B0 | Mineral fuels | 0.465 | 0.131 | 0.012 | 0.505 |
| M2122 | Metal ores and concentrates | 0.663 | 0.172 | 0.059 | 1.388 |
| M2123 | Non-metallic minerals | 0.501 | 0.193 | 0.021 | 0.715 |
| M2130 | Mineral support services | 0.770 | 0.489 | 0.052 | 1.369 |
| M21A0 | Mineral and oil and gas exploration | 0.787 | 0.398 | 0.035 | 1.106 |
| M2200 | Utilities | 0.787 | 0.383 | 0.036 | 1.267 |
| M23A0 | Residential construction | 0.618 | 0.338 | 0.049 | 1.423 |
| M23B0 | Non-residential buildings | 0.630 | 0.372 | 0.048 | 1.523 |
| M23C0 | Engineering construction | 0.670 | 0.415 | 0.048 | 1.621 |
| M23D0 | Repair construction services | 0.609 | 0.391 | 0.052 | 1.430 |
| M31C0 | Food and non-alcoholic beverages | 0.369 | 0.197 | 0.036 | 1.546 |
| M312A | Alcoholic beverages and tobacco products | 0.481 | 0.142 | 0.018 | 0.849 |
| M31D0 | Textile products, clothing, and products of leather and similar materials | 0.361 | 0.246 | 0.067 | 0.791 |
| M3210 | Wood products | 0.475 | 0.283 | 0.031 | 1.172 |
| M3220 | Wood pulp, paper and paper products and paper stock | 0.494 | 0.306 | 0.030 | 1.468 |
| M3230 | Printed products and services | 0.386 | 0.230 | 0.035 | 0.760 |
| M3240 | Refined petroleum products (except petrochemicals) | 0.537 | 0.074 | 0.008 | 2.257 |
| M3250 | Chemical products | 0.597 | 0.149 | 0.016 | 1.544 |
| M3260 | Plastic and rubber products | 0.410 | 0.226 | 0.027 | 1.010 |
| M3270 | Non-metallic mineral products | 0.572 | 0.279 | 0.038 | 1.290 |
| M3310 | Primary metallic products | 0.369 | 0.262 | 0.026 | 1.393 |
| M3320 | Fabricated metallic products | 0.518 | 0.323 | 0.037 | 1.177 |
| M3330 | Industrial machinery | 0.434 | 0.256 | 0.029 | 1.021 |
| M334C | Computers and electronic products | 0.402 | 0.249 | 0.024 | 0.895 |
| M3350 | Electrical equipment, appliances and components | 0.449 | 0.300 | 0.030 | 1.081 |
| M336A | Transportation equipment | 0.497 | 0.325 | 0.041 | 1.195 |
| M3363 | Motor vehicle parts | 0.433 | 0.306 | 0.044 | 1.056 |
| M3370 | Furniture and related products | 0.378 | 0.254 | 0.045 | 0.878 |
| M3B00 | Other manufactured products and custom work | 0.517 | 0.312 | 0.044 | 1.092 |
| M4100 | Wholesale margins and commissions | 0.808 | 0.457 | 0.055 | 1.367 |

# TABLE 4

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M4A00 | Retail margins, sales of used goods and commissions | 0.331 | 0.217 | 0.050 | 0.559 |
| M4B00 | Transportation and related services | 0.666 | 0.347 | 0.050 | 1.325 |
| M51D0 | Information and cultural services | 0.669 | 0.397 | 0.059 | 1.256 |
| M51E0 | Published and recorded media products | 0.632 | 0.332 | 0.050 | 1.062 |
| M5170 | Telecommunications | 0.779 | 0.232 | 0.031 | 1.216 |
| M52C0 | Depository credit intermediation | 0.845 | 0.442 | 0.061 | 1.256 |
| M5F00 | Other finance and insurance | 0.784 | 0.448 | 0.060 | 1.345 |
| M53D0 | Real estate, rental and leasing and rights to non-financial intangible assets | 0.798 | 0.285 | 0.045 | 1.360 |
| M53C0 | Imputed rental of owner-occupied dwellings | 0.973 | 0.023 | 0.003 | 1.147 |
| M541E | Professional services (except software and research and development) | 0.770 | 0.478 | 0.063 | 1.296 |
| M5E00 | Software | 0.801 | 0.484 | 0.059 | 1.268 |
| M5417 | Research and development | 0.835 | 0.452 | 0.054 | 1.160 |
| M5G00 | Administrative and support, head office, waste management and remediation services | 0.806 | 0.490 | 0.088 | 1.253 |
| M6100 | Education services | 0.852 | 0.584 | 0.119 | 1.240 |
| M6200 | Health and social assistance services | 0.856 | 0.496 | 0.097 | 1.242 |
| M7100 | Arts, entertainment and recreation services | 0.730 | 0.493 | 0.125 | 1.385 |
| M7200 | Accommodation and food services | 0.685 | 0.465 | 0.140 | 1.301 |
| M8100 | Other services | 0.772 | 0.506 | 0.100 | 1.265 |
| M9A00 | Sales of other services by Non-Profit Institutions Serving Households | 0.755 | 0.583 | 0.136 | 1.458 |
| M9B00 | Sales of other government services | 0.823 | 0.607 | 0.067 | 1.463 |
| N0000 | Services provided by Non-Profit Institutions Serving Households | 0.781 | 0.639 | 0.149 | 1.377 |
| G6100 | Education services provided by government sector | 0.874 | 0.708 | 0.105 | 1.198 |
| G6200 | Health services provided by government sector | 0.829 | 0.715 | 0.079 | 1.333 |
| G9110 | Other federal government services | 0.823 | 0.641 | 0.070 | 1.315 |
| G9120 | Other provincial and territorial government services | 0.774 | 0.489 | 0.068 | 1.827 |
| G9130 | Other municipal government services | 0.863 | 0.479 | 0.060 | 1.325 |
| G9140 | Other aboriginal government services | 0.818 | 0.615 | 0.024 | 1.587 |

**Notes:** Simple/Total multipliers for GDP, Labour Income and total Output expressed as total impact per dollar of output change. Simple/Total multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 5: Alberta Total Multipliers (Industries)

## Closed Model - Direct , Indirect and Induced Impacts

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS11A00 | Crop and animal production | 0.692 | 0.212 | 0.070 | 2.094 |
| BS11300 | Forestry and logging | 0.796 | 0.509 | 0.065 | 1.994 |
| BS11400 | Fishing, hunting and trapping | 1.007 | 0.299 | 0.086 | 1.509 |
| BS11500 | Support activities for agriculture and forestry | 0.954 | 0.515 | 0.101 | 1.699 |
| BS21100 | Oil and gas extraction | 0.855 | 0.250 | 0.026 | 0.909 |
| BS21210 | Coal mining | 0.906 | 0.600 | 0.050 | 1.732 |
| BS21220 | Metal ore mining | 0.778 | 0.218 | 0.069 | 1.580 |
| BS21230 | Non-metallic mineral mining and quarrying | 0.844 | 0.359 | 0.043 | 1.570 |
| BS21300 | Support activities for mining and oil and gas extraction | 0.935 | 0.487 | 0.050 | 1.520 |
| BS22110 | Electric power generation, transmission and distribution | 0.950 | 0.475 | 0.043 | 1.580 |
| BS221A0 | Natural gas distribution, water, sewage and other systems | 1.031 | 0.411 | 0.052 | 1.478 |
| BS23A00 | Residential building construction | 0.796 | 0.412 | 0.064 | 1.738 |
| BS23B00 | Non-residential building construction | 0.783 | 0.433 | 0.060 | 1.781 |
| BS23C10 | Transportation engineering construction | 0.777 | 0.439 | 0.072 | 2.007 |
| BS23C20 | Oil and gas engineering construction | 0.828 | 0.489 | 0.062 | 1.894 |
| BS23C30 | Electric power engineering construction | 0.841 | 0.355 | 0.038 | 1.566 |
| BS23C40 | Communication engineering construction | 0.613 | 0.340 | 0.047 | 1.711 |
| BS23C50 | Other engineering construction | 0.794 | 0.459 | 0.054 | 1.820 |
| BS23D00 | Repair construction | 0.798 | 0.472 | 0.068 | 1.766 |
| BS23E00 | Other activities of the construction industry | 0.866 | 0.218 | 0.046 | 1.518 |
| BS31110 | Animal food manufacturing | 0.517 | 0.261 | 0.042 | 1.841 |
| BS31130 | Sugar and confectionery product manufacturing | 0.569 | 0.251 | 0.050 | 1.428 |
| BS31140 | Fruit and vegetable preserving and specialty food manufacturing | 0.628 | 0.325 | 0.051 | 1.637 |
| BS31150 | Dairy product manufacturing | 0.837 | 0.381 | 0.071 | 2.878 |
| BS31160 | Meat product manufacturing | 0.523 | 0.328 | 0.068 | 2.496 |
| BS31170 | Seafood product preparation and packaging | 0.547 | 0.245 | 0.123 | 1.587 |
| BS311A0 | Miscellaneous food manufacturing | 0.703 | 0.264 | 0.046 | 2.160 |
| BS31211 | Soft drink and ice manufacturing | 0.679 | 0.410 | 0.055 | 1.727 |
| BS31212 | Breweries | 0.846 | 0.267 | 0.038 | 1.419 |
| BS3121A | Wineries and distilleries | 0.781 | 0.213 | 0.028 | 1.531 |
| BS31220 | Tobacco manufacturing | 0.000 | 0.000 | 0.000 | 0.000 |

# TABLE 5

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS31A00 | Textile and textile product mills | 0.731 | 0.443 | 0.118 | 1.527 |
| BS31B00 | Clothing and leather and allied product manufacturing | 0.766 | 0.492 | 0.142 | 1.642 |
| BS32100 | Wood product manufacturing | 0.827 | 0.464 | 0.055 | 1.950 |
| BS32210 | Pulp, paper and paperboard mills | 0.636 | 0.366 | 0.039 | 1.769 |
| BS32220 | Converted paper product manufacturing | 0.544 | 0.373 | 0.048 | 1.495 |
| BS32300 | Printing and related support activities | 0.829 | 0.467 | 0.073 | 1.600 |
| BS32400 | Petroleum and coal product manufacturing | 0.815 | 0.119 | 0.014 | 3.384 |
| BS32510 | Basic chemical manufacturing | 0.784 | 0.162 | 0.018 | 1.744 |
| BS32530 | Pesticide, fertilizer and other agricultural chemical manufacturing | 0.730 | 0.202 | 0.025 | 1.975 |
| BS32540 | Pharmaceutical and medicine manufacturing | 0.687 | 0.274 | 0.032 | 1.666 |
| BS325C0 | Miscellaneous chemical product manufacturing | 0.674 | 0.450 | 0.068 | 1.576 |
| BS32610 | Plastic product manufacturing | 0.655 | 0.343 | 0.045 | 1.543 |
| BS32620 | Rubber product manufacturing | 0.677 | 0.406 | 0.050 | 1.553 |
| BS327A0 | Non-metallic mineral product manufacturing (except cement and concrete products) | 0.746 | 0.374 | 0.055 | 1.636 |
| BS32730 | Cement and concrete product manufacturing | 0.793 | 0.367 | 0.053 | 1.714 |
| BS33100 | Primary metal manufacturing | 0.414 | 0.277 | 0.030 | 1.523 |
| BS33200 | Fabricated metal product manufacturing | 0.739 | 0.434 | 0.054 | 1.586 |
| BS33300 | Machinery manufacturing | 0.672 | 0.373 | 0.047 | 1.520 |
| BS33410 | Computer and peripheral equipment manufacturing | 0.729 | 0.489 | 0.062 | 1.500 |
| BS334B0 | Electronic product manufacturing | 0.644 | 0.369 | 0.039 | 1.376 |
| BS335A0 | Electrical equipment and component manufacturing | 0.647 | 0.403 | 0.045 | 1.480 |
| BS33520 | Household appliance manufacturing | 0.739 | 0.508 | 0.068 | 1.871 |
| BS33610 | Motor vehicle manufacturing | 1.588 | 0.417 | 0.120 | 1.687 |
| BS33620 | Motor vehicle body and trailer manufacturing | 0.654 | 0.394 | 0.065 | 1.515 |
| BS33630 | Motor vehicle parts manufacturing | 0.615 | 0.406 | 0.067 | 1.538 |
| BS33640 | Aerospace product and parts manufacturing | 0.644 | 0.398 | 0.035 | 1.374 |
| BS33650 | Railroad rolling stock manufacturing | 0.877 | 0.449 | 0.158 | 1.777 |
| BS33660 | Ship and boat building | 0.606 | 0.379 | 0.087 | 1.487 |
| BS33690 | Other transportation equipment manufacturing | 0.614 | 0.382 | 0.059 | 1.626 |
| BS33700 | Furniture and related product manufacturing | 0.771 | 0.477 | 0.087 | 1.686 |
| BS33900 | Miscellaneous manufacturing | 0.792 | 0.458 | 0.063 | 1.584 |

# TABLE 5

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS41000 | Wholesale trade | 0.977 | 0.525 | 0.068 | 1.635 |
| BS4A000 | Retail trade | 1.049 | 0.635 | 0.145 | 1.762 |
| BS48100 | Air transportation | 0.696 | 0.426 | 0.065 | 1.867 |
| BS48200 | Rail transportation | 0.994 | 0.519 | 0.058 | 1.695 |
| BS48300 | Water transportation | 0.860 | 0.413 | 0.057 | 1.553 |
| BS48400 | Truck transportation | 0.840 | 0.453 | 0.067 | 1.895 |
| BS48B00 | Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation | 1.053 | 0.651 | 0.118 | 1.822 |
| BS48600 | Pipeline transportation | 0.961 | 0.228 | 0.019 | 1.368 |
| BS49A00 | Postal service, couriers and messengers | 1.010 | 0.642 | 0.137 | 1.800 |
| BS49300 | Warehousing and storage | 1.057 | 0.659 | 0.116 | 1.619 |
| BS51200 | Motion picture and sound recording industries | 0.765 | 0.319 | 0.109 | 1.548 |
| BS51510 | Radio and television broadcasting | 0.812 | 0.482 | 0.080 | 1.519 |
| BS51B00 | Publishing, pay/specialty services, telecommunications and other information services | 0.894 | 0.303 | 0.042 | 1.425 |
| BS52B00 | Depository credit intermediation and monetary authorities | 0.981 | 0.496 | 0.073 | 1.559 |
| BS52410 | Insurance carriers | 0.847 | 0.393 | 0.059 | 2.116 |
| BS53110 | Lessors of real estate | 0.925 | 0.249 | 0.046 | 1.543 |
| BS5311A | Owner-occupied dwellings | 0.981 | 0.027 | 0.004 | 1.161 |
| BS53B00 | Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works) | 0.924 | 0.419 | 0.058 | 1.589 |
| BS5A000 | Other finance, insurance and real estate services and management of companies and enterprises | 0.941 | 0.569 | 0.096 | 2.083 |
| BS541C0 | Legal, accounting and architectural, engineering and related services | 0.998 | 0.581 | 0.079 | 1.657 |
| BS541D0 | Computer systems design and other professional, scientific and technical services | 1.028 | 0.638 | 0.087 | 1.704 |
| BS54180 | Advertising, public relations, and related services | 0.959 | 0.561 | 0.098 | 1.825 |
| BS56100 | Administrative and support services | 1.053 | 0.652 | 0.128 | 1.675 |
| BS56200 | Waste management and remediation services | 1.016 | 0.380 | 0.057 | 1.437 |
| BS61000 | Educational services | 1.068 | 0.613 | 0.217 | 1.802 |
| BS62000 | Health care and social assistance | 1.077 | 0.539 | 0.114 | 1.585 |
| BS71000 | Arts, entertainment and recreation | 0.960 | 0.597 | 0.169 | 1.815 |

# TABLE 5

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS72000 | Accommodation and food services | 0.905 | 0.560 | 0.163 | 1.680 |
| BS81100 | Repair and maintenance | 1.000 | 0.587 | 0.099 | 1.661 |
| BS81A00 | Personal services and private households | 0.850 | 0.432 | 0.148 | 1.398 |
| BS81300 | Professional and similar organizations | 1.005 | 0.980 | 0.178 | 1.988 |
| NP61000 | Educational services | 1.108 | 0.834 | 0.168 | 1.622 |
| NP62400 | Social assistance | 1.161 | 0.895 | 0.217 | 1.713 |
| NP71000 | Arts, entertainment and recreation | 0.919 | 0.611 | 0.172 | 1.820 |
| NP81310 | Religious organizations | 1.000 | 0.699 | 0.171 | 1.799 |
| NPA0000 | Miscellaneous non-profit institutions serving households | 0.979 | 0.681 | 0.151 | 1.834 |
| GS611B0 | Educational services (except universities) | 1.122 | 0.852 | 0.133 | 1.625 |
| GS61130 | Universities | 1.061 | 0.594 | 0.087 | 1.466 |
| GS62200 | Hospitals | 1.041 | 0.792 | 0.094 | 1.716 |
| GS62300 | Nursing and residential care facilities | 1.166 | 0.895 | 0.126 | 1.694 |
| GS91100 | Other federal government services | 1.047 | 0.747 | 0.085 | 1.690 |
| GS91200 | Other provincial and territorial government services | 1.024 | 0.569 | 0.083 | 2.046 |
| GS91300 | Other municipal government services | 0.974 | 0.540 | 0.072 | 1.586 |
| GS91400 | Other aboriginal government services | 1.050 | 0.706 | 0.044 | 1.974 |

**Notes:** Simple/Total multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change. Simple/Total multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 6: Alberta Type II Multipliers (Industries)

## Closed Model - Direct , Indirect and Induced Impacts

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS11A00 | Crop and animal production | 2.124 | 4.458 | 2.300 | 2.094 |
| BS11300 | Forestry and logging | 2.549 | 1.968 | 2.473 | 1.994 |
| BS11400 | Fishing, hunting and trapping | 1.402 | 1.819 | 1.364 | 1.509 |
| BS11500 | Support activities for agriculture and forestry | 1.626 | 1.496 | 1.428 | 1.699 |
| BS21100 | Oil and gas extraction | 1.498 | 2.049 | 3.640 | 0.909 |
| BS21210 | Coal mining | 1.793 | 1.413 | 2.350 | 1.732 |
| BS21220 | Metal ore mining | 1.667 | 3.215 | 1.559 | 1.580 |
| BS21230 | Non-metallic mineral mining and quarrying | 1.552 | 1.626 | 2.013 | 1.570 |
| BS21300 | Support activities for mining and oil and gas extraction | 1.429 | 1.340 | 1.724 | 1.520 |
| BS22110 | Electric power generation, transmission and distribution | 1.536 | 1.430 | 2.015 | 1.580 |
| BS221A0 | Natural gas distribution, water, sewage and other systems | 1.365 | 1.380 | 1.585 | 1.478 |
| BS23A00 | Residential building construction | 1.881 | 1.780 | 1.844 | 1.738 |
| BS23B00 | Non-residential building construction | 2.013 | 1.809 | 2.042 | 1.781 |
| BS23C10 | Transportation engineering construction | 2.725 | 2.274 | 2.076 | 2.007 |
| BS23C20 | Oil and gas engineering construction | 2.225 | 1.757 | 1.980 | 1.894 |
| BS23C30 | Electric power engineering construction | 1.518 | 1.642 | 2.361 | 1.566 |
| BS23C40 | Communication engineering construction | 2.409 | 2.091 | 2.444 | 1.711 |
| BS23C50 | Other engineering construction | 2.053 | 1.783 | 2.341 | 1.820 |
| BS23D00 | Repair construction | 1.954 | 1.669 | 1.828 | 1.766 |
| BS23E00 | Other activities of the construction industry | 1.478 | 2.442 | 1.887 | 1.518 |
| BS31110 | Animal food manufacturing | 2.715 | 2.331 | 3.799 | 1.841 |
| BS31130 | Sugar and confectionery product manufacturing | 1.576 | 1.683 | 1.764 | 1.428 |
| BS31140 | Fruit and vegetable preserving and specialty food manufacturing | 2.036 | 1.965 | 2.569 | 1.637 |
| BS31150 | Dairy product manufacturing | 3.588 | 3.675 | 3.584 | 2.878 |
| BS31160 | Meat product manufacturing | 3.693 | 2.950 | 3.676 | 2.496 |
| BS31170 | Seafood product preparation and packaging | 2.606 | 2.281 | 1.216 | 1.587 |
| BS311A0 | Miscellaneous food manufacturing | 2.294 | 2.371 | 2.482 | 2.160 |
| BS31211 | Soft drink and ice manufacturing | 2.063 | 1.708 | 2.314 | 1.727 |
| BS31212 | Breweries | 1.330 | 1.569 | 1.849 | 1.419 |
| BS3121A | Wineries and distilleries | 1.391 | 1.747 | 2.227 | 1.531 |
| BS31220 | Tobacco manufacturing | 0.000 | 0.000 | 0.000 | 0.000 |

# TABLE 6

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS31A00 | Textile and textile product mills | 1.657 | 1.437 | 1.263 | 1.527 |
| BS31B00 | Clothing and leather and allied product manufacturing | 1.857 | 1.504 | 1.273 | 1.642 |
| BS32100 | Wood product manufacturing | 2.150 | 1.918 | 2.394 | 1.950 |
| BS32210 | Pulp, paper and paperboard mills | 2.309 | 1.858 | 2.718 | 1.769 |
| BS32220 | Converted paper product manufacturing | 1.863 | 1.467 | 1.701 | 1.495 |
| BS32300 | Printing and related support activities | 1.640 | 1.488 | 1.558 | 1.600 |
| BS32400 | Petroleum and coal product manufacturing | 3.778 | 6.892 | 10.607 | 3.384 |
| BS32510 | Basic chemical manufacturing | 1.710 | 3.045 | 6.014 | 1.744 |
| BS32530 | Pesticide, fertilizer and other agricultural chemical manufacturing | 2.302 | 2.892 | 3.814 | 1.975 |
| BS32540 | Pharmaceutical and medicine manufacturing | 1.946 | 2.050 | 2.904 | 1.666 |
| BS325C0 | Miscellaneous chemical product manufacturing | 1.805 | 1.438 | 1.496 | 1.576 |
| BS32610 | Plastic product manufacturing | 1.712 | 1.605 | 1.853 | 1.543 |
| BS32620 | Rubber product manufacturing | 1.706 | 1.513 | 1.764 | 1.553 |
| BS327A0 | Non-metallic mineral product manufacturing (except cement and concrete products) | 1.770 | 1.671 | 1.790 | 1.636 |
| BS32730 | Cement and concrete product manufacturing | 1.800 | 1.833 | 1.960 | 1.714 |
| BS33100 | Primary metal manufacturing | 2.458 | 1.804 | 2.482 | 1.523 |
| BS33200 | Fabricated metal product manufacturing | 1.683 | 1.490 | 1.743 | 1.586 |
| BS33300 | Machinery manufacturing | 1.682 | 1.505 | 1.742 | 1.520 |
| BS33410 | Computer and peripheral equipment manufacturing | 1.605 | 1.345 | 1.561 | 1.500 |
| BS334B0 | Electronic product manufacturing | 1.466 | 1.341 | 1.729 | 1.376 |
| BS335A0 | Electrical equipment and component manufacturing | 1.630 | 1.411 | 1.761 | 1.480 |
| BS33520 | Household appliance manufacturing | 2.498 | 1.744 | 2.008 | 1.871 |
| BS33610 | Motor vehicle manufacturing | 1.271 | 1.627 | 1.268 | 1.687 |
| BS33620 | Motor vehicle body and trailer manufacturing | 1.696 | 1.471 | 1.493 | 1.515 |
| BS33630 | Motor vehicle parts manufacturing | 1.863 | 1.490 | 1.517 | 1.538 |
| BS33640 | Aerospace product and parts manufacturing | 1.474 | 1.297 | 1.786 | 1.374 |
| BS33650 | Railroad rolling stock manufacturing | 1.984 | 1.703 | 1.279 | 1.777 |
| BS33660 | Ship and boat building | 1.719 | 1.456 | 1.303 | 1.487 |
| BS33690 | Other transportation equipment manufacturing | 2.217 | 1.639 | 1.608 | 1.626 |
| BS33700 | Furniture and related product manufacturing | 1.857 | 1.567 | 1.515 | 1.686 |
| BS33900 | Miscellaneous manufacturing | 1.644 | 1.474 | 1.659 | 1.584 |

# TABLE 6

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS41000 | Wholesale trade | 1.560 | 1.444 | 1.705 | 1.635 |
| BS4A000 | Retail trade | 1.692 | 1.464 | 1.345 | 1.762 |
| BS48100 | Air transportation | 2.264 | 1.949 | 2.059 | 1.867 |
| BS48200 | Rail transportation | 1.639 | 1.490 | 1.901 | 1.695 |
| BS48300 | Water transportation | 1.562 | 1.513 | 1.741 | 1.553 |
| BS48400 | Truck transportation | 2.169 | 1.901 | 2.048 | 1.895 |
| BS48B00 | Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation | 1.740 | 1.462 | 1.436 | 1.822 |
| BS48600 | Pipeline transportation | 1.273 | 1.618 | 3.792 | 1.368 |
| BS49A00 | Postal service, couriers and messengers | 1.755 | 1.475 | 1.377 | 1.800 |
| BS49300 | Warehousing and storage | 1.497 | 1.308 | 1.325 | 1.619 |
| BS51200 | Motion picture and sound recording industries | 1.654 | 1.869 | 1.354 | 1.548 |
| BS51510 | Radio and television broadcasting | 1.566 | 1.399 | 1.470 | 1.519 |
| BS51B00 | Publishing, pay/specialty services, telecommunications and other information services | 1.365 | 1.591 | 1.857 | 1.425 |
| BS52B00 | Depository credit intermediation and monetary authorities | 1.466 | 1.414 | 1.526 | 1.559 |
| BS52410 | Insurance carriers | 2.602 | 2.747 | 3.121 | 2.116 |
| BS53110 | Lessors of real estate | 1.491 | 2.179 | 1.938 | 1.543 |
| BS5311A | Owner-occupied dwellings | 1.125 | 0.000 | 0.000 | 1.161 |
| BS53B00 | Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works) | 1.532 | 1.563 | 1.817 | 1.589 |
| BS5A000 | Other finance, insurance and real estate services and management of companies and enterprises | 2.370 | 1.913 | 1.909 | 2.083 |
| BS541C0 | Legal, accounting and architectural, engineering and related services | 1.588 | 1.416 | 1.637 | 1.657 |
| BS541D0 | Computer systems design and other professional, scientific and technical services | 1.630 | 1.401 | 1.585 | 1.704 |
| BS54180 | Advertising, public relations, and related services | 1.946 | 1.660 | 1.680 | 1.825 |
| BS56100 | Administrative and support services | 1.572 | 1.363 | 1.334 | 1.675 |
| BS56200 | Waste management and remediation services | 1.315 | 1.412 | 1.533 | 1.437 |
| BS61000 | Educational services | 1.749 | 1.541 | 1.234 | 1.802 |
| BS62000 | Health care and social assistance | 1.450 | 1.387 | 1.335 | 1.585 |
| BS71000 | Arts, entertainment and recreation | 1.912 | 1.608 | 1.359 | 1.815 |

# TABLE 6

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS72000 | Accommodation and food services | 1.694 | 1.468 | 1.295 | 1.680 |
| BS81100 | Repair and maintenance | 1.590 | 1.408 | 1.459 | 1.661 |
| BS81A00 | Personal services and private households | 1.593 | 1.514 | 1.227 | 1.678 |
| BS81300 | Professional and similar organizations | 2.266 | 1.359 | 1.358 | 1.988 |
| NP61000 | Educational services | 1.477 | 1.222 | 1.211 | 1.622 |
| NP62400 | Social assistance | 1.545 | 1.251 | 1.191 | 1.713 |
| NP71000 | Arts, entertainment and recreation | 2.001 | 1.591 | 1.337 | 1.820 |
| NP81310 | Religious organizations | 1.807 | 1.418 | 1.280 | 1.799 |
| NPA0000 | Miscellaneous non-profit institutions serving households | 1.912 | 1.476 | 1.358 | 1.834 |
| GS611B0 | Educational services (except universities) | 1.482 | 1.243 | 1.301 | 1.625 |
| GS61130 | Universities | 1.337 | 1.245 | 1.333 | 1.466 |
| GS62200 | Hospitals | 1.644 | 1.374 | 1.580 | 1.716 |
| GS62300 | Nursing and residential care facilities | 1.514 | 1.252 | 1.350 | 1.694 |
| GS91100 | Other federal government services | 1.593 | 1.326 | 1.608 | 1.690 |
| GS91200 | Other provincial and territorial government services | 2.450 | 2.025 | 2.150 | 2.046 |
| GS91300 | Other municipal government services | 1.416 | 1.379 | 1.542 | 1.586 |
| GS91400 | Other aboriginal government services | 2.036 | 1.633 | 0.000 | 1.974 |

**Notes:** Type I/II multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change.
Type I/II multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 7: Alberta Total Multipliers (Commodities at Basic Prices)

## Closed Model - Direct, Indirect and Induced Impacts

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M111B | Grains and other crop products | 0.755 | 0.153 | 0.037 | 1.578 |
| M112A | Live animals | 0.588 | 0.313 | 0.127 | 2.957 |
| M11D0 | Other farm products | 0.589 | 0.313 | 0.127 | 2.951 |
| M11E0 | Forestry products and services | 0.792 | 0.499 | 0.064 | 1.982 |
| M1140 | Fish, crustaceans, shellfish and other fishery products | 0.748 | 0.237 | 0.072 | 1.684 |
| M1150 | Support services related to farming and forestry | 0.768 | 0.397 | 0.084 | 2.125 |
| M21B0 | Mineral fuels | 0.855 | 0.248 | 0.025 | 0.971 |
| M2122 | Metal ores and concentrates | 0.778 | 0.218 | 0.069 | 1.580 |
| M2123 | Non-metallic minerals | 0.853 | 0.329 | 0.041 | 1.242 |
| M2130 | Mineral support services | 0.952 | 0.561 | 0.067 | 1.673 |
| M21A0 | Mineral and oil and gas exploration | 0.922 | 0.451 | 0.046 | 1.334 |
| M2200 | Utilities | 0.965 | 0.458 | 0.049 | 1.563 |
| M23A0 | Residential construction | 0.796 | 0.412 | 0.064 | 1.738 |
| M23B0 | Non-residential buildings | 0.783 | 0.433 | 0.060 | 1.781 |
| M23C0 | Engineering construction | 0.823 | 0.475 | 0.061 | 1.877 |
| M23D0 | Repair construction services | 0.798 | 0.472 | 0.068 | 1.766 |
| M31C0 | Food and non-alcoholic beverages | 0.612 | 0.313 | 0.059 | 2.308 |
| M312A | Alcoholic beverages and tobacco products | 0.827 | 0.251 | 0.035 | 1.453 |
| M31D0 | Textile products, clothing, and products of leather and similar materials | 0.773 | 0.475 | 0.125 | 1.602 |
| M3210 | Wood products | 0.830 | 0.467 | 0.056 | 1.941 |
| M3220 | Wood pulp, paper and paper products and paper stock | 0.628 | 0.367 | 0.040 | 1.736 |
| M3230 | Printed products and services | 0.835 | 0.469 | 0.074 | 1.602 |
| M3240 | Refined petroleum products (except petrochemicals) | 0.814 | 0.121 | 0.015 | 3.334 |
| M3250 | Chemical products | 0.752 | 0.196 | 0.024 | 1.891 |
| M3260 | Plastic and rubber products | 0.664 | 0.350 | 0.046 | 1.556 |
| M3270 | Non-metallic mineral products | 0.780 | 0.370 | 0.053 | 1.693 |
| M3310 | Primary metallic products | 0.454 | 0.296 | 0.033 | 1.539 |
| M3320 | Fabricated metallic products | 0.730 | 0.426 | 0.054 | 1.582 |
| M3330 | Industrial machinery | 0.681 | 0.380 | 0.047 | 1.525 |
| M334C | Computers and electronic products | 0.658 | 0.382 | 0.041 | 1.402 |
| M3350 | Electrical equipment, appliances and components | 0.653 | 0.404 | 0.046 | 1.486 |
| M336A | Transportation equipment | 0.650 | 0.394 | 0.054 | 1.475 |
| M3363 | Motor vehicle parts | 0.681 | 0.440 | 0.067 | 1.561 |
| M3370 | Furniture and related products | 0.768 | 0.472 | 0.085 | 1.680 |
| M3B00 | Other manufactured products and custom work | 0.796 | 0.450 | 0.067 | 1.619 |
| M4100 | Wholesale margins and commissions | 0.969 | 0.520 | 0.068 | 1.636 |

# TABLE 7

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M4A00 | Retail margins, sales of used goods and commissions | 1.042 | 0.627 | 0.144 | 1.756 |
| M4B00 | Transportation and related services | 0.901 | 0.452 | 0.069 | 1.749 |
| M51D0 | Information and cultural services | 0.841 | 0.468 | 0.073 | 1.548 |
| M51E0 | Published and recorded media products | 0.961 | 0.485 | 0.077 | 1.613 |
| M5170 | Telecommunications | 0.895 | 0.274 | 0.039 | 1.406 |
| M52C0 | Depository credit intermediation | 1.001 | 0.505 | 0.073 | 1.517 |
| M5F00 | Other finance and insurance | 0.950 | 0.514 | 0.074 | 1.623 |
| M53D0 | Real estate, rental and leasing and rights to non-financial intangible assets | 0.930 | 0.336 | 0.056 | 1.581 |
| M53C0 | Imputed rental of owner-occupied dwellings | 0.981 | 0.027 | 0.004 | 1.161 |
| M541E | Professional services (except software and research and development) | 0.996 | 0.573 | 0.082 | 1.675 |
| M5E00 | Software | 0.981 | 0.555 | 0.074 | 1.570 |
| M5417 | Research and development | 0.993 | 0.514 | 0.067 | 1.424 |
| M5G00 | Administrative and support, head office, waste management and remediation services | 1.020 | 0.578 | 0.107 | 1.610 |
| M6100 | Education services | 1.085 | 0.678 | 0.139 | 1.629 |
| M6200 | Health and social assistance services | 1.076 | 0.583 | 0.115 | 1.611 |
| M7100 | Arts, entertainment and recreation services | 0.964 | 0.593 | 0.147 | 1.782 |
| M7200 | Accommodation and food services | 0.909 | 0.561 | 0.162 | 1.681 |
| M8100 | Other services | 1.015 | 0.611 | 0.121 | 1.671 |
| M9A00 | Sales of other services by Non-Profit Institutions Serving Households | 0.978 | 0.671 | 0.154 | 1.831 |
| M9B00 | Sales of other government services | 1.017 | 0.684 | 0.083 | 1.788 |
| N0000 | Services provided by Non-Profit Institutions Serving Households | 1.023 | 0.735 | 0.169 | 1.783 |
| G6100 | Education services provided by government sector | 1.109 | 0.800 | 0.124 | 1.591 |
| G6200 | Health services provided by government sector | 1.056 | 0.805 | 0.098 | 1.713 |
| G9110 | Other federal government services | 1.025 | 0.721 | 0.087 | 1.654 |
| G9120 | Other provincial and territorial government services | 0.939 | 0.554 | 0.082 | 2.104 |
| G9130 | Other municipal government services | 1.019 | 0.540 | 0.072 | 1.586 |
| G9140 | Other aboriginal government services | 1.050 | 0.706 | 0.044 | 1.974 |

**Notes:** Simple/Total multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change. Simple/Total multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 8: Alberta Total Multipliers (Commodities at Purchaser Prices)

## Closed Model - Direct, Indirect and Induced Impacts

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M111B | Grains and other crop products | 0.712 | 0.144 | 0.035 | 1.490 |
| M112A | Live animals | 0.570 | 0.303 | 0.123 | 2.870 |
| M11D0 | Other farm products | 0.552 | 0.293 | 0.119 | 2.763 |
| M11E0 | Forestry products and services | 0.786 | 0.495 | 0.063 | 1.967 |
| M1140 | Fish, crustaceans, shellfish and other fishery products | 0.613 | 0.194 | 0.059 | 1.379 |
| M1150 | Support services related to farming and forestry | 0.768 | 0.397 | 0.084 | 2.125 |
| M21B0 | Mineral fuels | 0.509 | 0.148 | 0.015 | 0.578 |
| M2122 | Metal ores and concentrates | 0.778 | 0.218 | 0.069 | 1.580 |
| M2123 | Non-metallic minerals | 0.571 | 0.220 | 0.027 | 0.833 |
| M2130 | Mineral support services | 0.952 | 0.561 | 0.067 | 1.673 |
| M21A0 | Mineral and oil and gas exploration | 0.922 | 0.451 | 0.046 | 1.334 |
| M2200 | Utilities | 0.909 | 0.431 | 0.046 | 1.473 |
| M23A0 | Residential construction | 0.762 | 0.395 | 0.061 | 1.665 |
| M23B0 | Non-residential buildings | 0.780 | 0.431 | 0.060 | 1.774 |
| M23C0 | Engineering construction | 0.823 | 0.475 | 0.061 | 1.877 |
| M23D0 | Repair construction services | 0.762 | 0.451 | 0.065 | 1.687 |
| M31C0 | Food and non-alcoholic beverages | 0.442 | 0.226 | 0.042 | 1.667 |
| M312A | Alcoholic beverages and tobacco products | 0.526 | 0.160 | 0.022 | 0.925 |
| M31D0 | Textile products, clothing, and products of leather and similar materials | 0.470 | 0.289 | 0.076 | 0.974 |
| M3210 | Wood products | 0.567 | 0.319 | 0.039 | 1.326 |
| M3220 | Wood pulp, paper and paper products and paper stock | 0.589 | 0.344 | 0.037 | 1.627 |
| M3230 | Printed products and services | 0.467 | 0.262 | 0.041 | 0.896 |
| M3240 | Refined petroleum products (except petrochemicals) | 0.561 | 0.084 | 0.010 | 2.296 |
| M3250 | Chemical products | 0.647 | 0.169 | 0.020 | 1.627 |
| M3260 | Plastic and rubber products | 0.485 | 0.255 | 0.033 | 1.135 |
| M3270 | Non-metallic mineral products | 0.669 | 0.317 | 0.046 | 1.451 |
| M3310 | Primary metallic products | 0.452 | 0.295 | 0.032 | 1.532 |
| M3320 | Fabricated metallic products | 0.629 | 0.367 | 0.046 | 1.364 |
| M3330 | Industrial machinery | 0.523 | 0.291 | 0.036 | 1.170 |
| M334C | Computers and electronic products | 0.487 | 0.282 | 0.031 | 1.037 |
| M3350 | Electrical equipment, appliances and components | 0.546 | 0.338 | 0.038 | 1.243 |
| M336A | Transportation equipment | 0.610 | 0.370 | 0.050 | 1.383 |
| M3363 | Motor vehicle parts | 0.539 | 0.348 | 0.053 | 1.234 |
| M3370 | Furniture and related products | 0.478 | 0.294 | 0.053 | 1.047 |
| M3B00 | Other manufactured products and custom work | 0.631 | 0.357 | 0.053 | 1.284 |
| M4100 | Wholesale margins and commissions | 0.969 | 0.520 | 0.068 | 1.636 |

# TABLE 8

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M4A00 | Retail margins, sales of used goods and commissions | 0.416 | 0.250 | 0.057 | 0.700 |
| M4B00 | Transportation and related services | 0.792 | 0.397 | 0.060 | 1.536 |
| M51D0 | Information and cultural services | 0.818 | 0.456 | 0.071 | 1.505 |
| M51E0 | Published and recorded media products | 0.755 | 0.381 | 0.060 | 1.268 |
| M5170 | Telecommunications | 0.860 | 0.264 | 0.038 | 1.351 |
| M52C0 | Depository credit intermediation | 0.996 | 0.502 | 0.073 | 1.510 |
| M5F00 | Other finance and insurance | 0.950 | 0.514 | 0.074 | 1.623 |
| M53D0 | Real estate, rental and leasing and rights to non-financial intangible assets | 0.910 | 0.329 | 0.054 | 1.547 |
| M53C0 | Imputed rental of owner-occupied dwellings | 0.981 | 0.027 | 0.004 | 1.161 |
| M541E | Professional services (except software and research and development) | 0.964 | 0.555 | 0.079 | 1.622 |
| M5E00 | Software | 0.980 | 0.554 | 0.074 | 1.568 |
| M5417 | Research and development | 0.992 | 0.514 | 0.067 | 1.423 |
| M5G00 | Administrative and support, head office, waste management and remediation services | 1.000 | 0.567 | 0.104 | 1.578 |
| M6100 | Education services | 1.075 | 0.672 | 0.138 | 1.613 |
| M6200 | Health and social assistance services | 1.076 | 0.583 | 0.115 | 1.611 |
| M7100 | Arts, entertainment and recreation services | 0.928 | 0.571 | 0.142 | 1.717 |
| M7200 | Accommodation and food services | 0.873 | 0.539 | 0.156 | 1.615 |
| M8100 | Other services | 0.972 | 0.585 | 0.116 | 1.600 |
| M9A00 | Sales of other services by Non-Profit Institutions Serving Households | 0.978 | 0.671 | 0.154 | 1.831 |
| M9B00 | Sales of other government services | 1.017 | 0.684 | 0.083 | 1.788 |
| N0000 | Services provided by Non-Profit Institutions Serving Households | 1.023 | 0.735 | 0.169 | 1.783 |
| G6100 | Education services provided by government sector | 1.109 | 0.800 | 0.124 | 1.591 |
| G6200 | Health services provided by government sector | 1.056 | 0.805 | 0.098 | 1.713 |
| G9110 | Other federal government services | 1.025 | 0.721 | 0.087 | 1.654 |
| G9120 | Other provincial and territorial government services | 0.939 | 0.554 | 0.082 | 2.104 |
| G9130 | Other municipal government services | 1.019 | 0.540 | 0.072 | 1.586 |
| G9140 | Other aboriginal government services | 1.050 | 0.706 | 0.044 | 1.974 |

**Notes:** Simple/Total multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change. Simple/Total multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 9: Alberta Total Multipliers (Industries)

## Closed Model - Direct , Indirect and Induced Impacts

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS11A00 | Crop and animal production | 0.657 | 0.198 | 0.067 | 2.034 |
| BS11300 | Forestry and logging | 0.734 | 0.485 | 0.060 | 1.889 |
| BS11400 | Fishing, hunting and trapping | 0.965 | 0.282 | 0.082 | 1.439 |
| BS11500 | Support activities for agriculture and forestry | 0.868 | 0.480 | 0.094 | 1.554 |
| BS21100 | Oil and gas extraction | 0.832 | 0.240 | 0.024 | 0.870 |
| BS21210 | Coal mining | 0.861 | 0.582 | 0.046 | 1.657 |
| BS21220 | Metal ore mining | 0.746 | 0.205 | 0.066 | 1.527 |
| BS21230 | Non-metallic mineral mining and quarrying | 0.798 | 0.341 | 0.039 | 1.492 |
| BS21300 | Support activities for mining and oil and gas extraction | 0.884 | 0.467 | 0.045 | 1.434 |
| BS22110 | Electric power generation, transmission and distribution | 0.913 | 0.460 | 0.040 | 1.518 |
| BS221A0 | Natural gas distribution, water, sewage and other systems | 0.983 | 0.392 | 0.048 | 1.397 |
| BS23A00 | Residential building construction | 0.731 | 0.386 | 0.059 | 1.629 |
| BS23B00 | Non-residential building construction | 0.722 | 0.409 | 0.055 | 1.678 |
| BS23C10 | Transportation engineering construction | 0.692 | 0.406 | 0.065 | 1.865 |
| BS23C20 | Oil and gas engineering construction | 0.766 | 0.465 | 0.057 | 1.790 |
| BS23C30 | Electric power engineering construction | 0.804 | 0.341 | 0.035 | 1.503 |
| BS23C40 | Communication engineering construction | 0.565 | 0.321 | 0.043 | 1.631 |
| BS23C50 | Other engineering construction | 0.738 | 0.437 | 0.049 | 1.727 |
| BS23D00 | Repair construction | 0.731 | 0.446 | 0.063 | 1.654 |
| BS23E00 | Other activities of the construction industry | 0.836 | 0.206 | 0.044 | 1.467 |
| BS31110 | Animal food manufacturing | 0.483 | 0.248 | 0.039 | 1.784 |
| BS31130 | Sugar and confectionery product manufacturing | 0.526 | 0.234 | 0.046 | 1.356 |
| BS31140 | Fruit and vegetable preserving and specialty food manufacturing | 0.583 | 0.307 | 0.048 | 1.562 |
| BS31150 | Dairy product manufacturing | 0.771 | 0.355 | 0.066 | 2.769 |
| BS31160 | Meat product manufacturing | 0.466 | 0.306 | 0.064 | 2.401 |
| BS31170 | Seafood product preparation and packaging | 0.506 | 0.229 | 0.120 | 1.520 |
| BS311A0 | Miscellaneous food manufacturing | 0.663 | 0.248 | 0.042 | 2.093 |
| BS31211 | Soft drink and ice manufacturing | 0.631 | 0.391 | 0.051 | 1.646 |
| BS31212 | Breweries | 0.811 | 0.253 | 0.035 | 1.360 |
| BS3121A | Wineries and distilleries | 0.755 | 0.203 | 0.026 | 1.489 |
| BS31220 | Tobacco manufacturing | 0.000 | 0.000 | 0.000 | 0.000 |

# TABLE 9

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS31A00 | Textile and textile product mills | 0.649 | 0.411 | 0.111 | 1.391 |
| BS31B00 | Clothing and leather and allied product manufacturing | 0.674 | 0.456 | 0.135 | 1.488 |
| BS32100 | Wood product manufacturing | 0.774 | 0.443 | 0.051 | 1.861 |
| BS32210 | Pulp, paper and paperboard mills | 0.601 | 0.352 | 0.036 | 1.710 |
| BS32220 | Converted paper product manufacturing | 0.498 | 0.355 | 0.045 | 1.418 |
| BS32300 | Printing and related support activities | 0.755 | 0.438 | 0.067 | 1.476 |
| BS32400 | Petroleum and coal product manufacturing | 0.801 | 0.114 | 0.013 | 3.361 |
| BS32510 | Basic chemical manufacturing | 0.768 | 0.155 | 0.017 | 1.718 |
| BS32530 | Pesticide, fertilizer and other agricultural chemical manufacturing | 0.708 | 0.194 | 0.023 | 1.938 |
| BS32540 | Pharmaceutical and medicine manufacturing | 0.656 | 0.262 | 0.030 | 1.616 |
| BS325C0 | Miscellaneous chemical product manufacturing | 0.607 | 0.424 | 0.063 | 1.465 |
| BS32610 | Plastic product manufacturing | 0.611 | 0.326 | 0.042 | 1.470 |
| BS32620 | Rubber product manufacturing | 0.631 | 0.387 | 0.046 | 1.475 |
| BS327A0 | Non-metallic mineral product manufacturing (except cement and concrete products) | 0.694 | 0.354 | 0.051 | 1.548 |
| BS32730 | Cement and concrete product manufacturing | 0.737 | 0.345 | 0.048 | 1.620 |
| BS33100 | Primary metal manufacturing | 0.388 | 0.267 | 0.028 | 1.481 |
| BS33200 | Fabricated metal product manufacturing | 0.687 | 0.413 | 0.050 | 1.498 |
| BS33300 | Machinery manufacturing | 0.625 | 0.354 | 0.043 | 1.441 |
| BS33410 | Computer and peripheral equipment manufacturing | 0.674 | 0.467 | 0.058 | 1.407 |
| BS334B0 | Electronic product manufacturing | 0.609 | 0.355 | 0.036 | 1.318 |
| BS335A0 | Electrical equipment and component manufacturing | 0.606 | 0.387 | 0.042 | 1.411 |
| BS33520 | Household appliance manufacturing | 0.676 | 0.483 | 0.063 | 1.766 |
| BS33610 | Motor vehicle manufacturing | 1.523 | 0.391 | 0.115 | 1.578 |
| BS33620 | Motor vehicle body and trailer manufacturing | 0.588 | 0.368 | 0.060 | 1.403 |
| BS33630 | Motor vehicle parts manufacturing | 0.557 | 0.383 | 0.062 | 1.441 |
| BS33640 | Aerospace product and parts manufacturing | 0.613 | 0.386 | 0.033 | 1.323 |
| BS33650 | Railroad rolling stock manufacturing | 0.802 | 0.419 | 0.152 | 1.653 |
| BS33660 | Ship and boat building | 0.548 | 0.356 | 0.082 | 1.390 |
| BS33690 | Other transportation equipment manufacturing | 0.556 | 0.359 | 0.054 | 1.529 |
| BS33700 | Furniture and related product manufacturing | 0.687 | 0.444 | 0.080 | 1.545 |
| BS33900 | Miscellaneous manufacturing | 0.734 | 0.435 | 0.058 | 1.486 |

# TABLE 9

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS41000 | Wholesale trade | 0.912 | 0.500 | 0.063 | 1.526 |
| BS4A000 | Retail trade | 0.951 | 0.596 | 0.137 | 1.599 |
| BS48100 | Air transportation | 0.643 | 0.405 | 0.060 | 1.778 |
| BS48200 | Rail transportation | 0.935 | 0.496 | 0.053 | 1.597 |
| BS48300 | Water transportation | 0.811 | 0.394 | 0.053 | 1.470 |
| BS48400 | Truck transportation | 0.772 | 0.426 | 0.062 | 1.782 |
| BS48B00 | Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation | 0.951 | 0.610 | 0.110 | 1.650 |
| BS48600 | Pipeline transportation | 0.946 | 0.222 | 0.018 | 1.342 |
| BS49A00 | Postal service, couriers and messengers | 0.900 | 0.598 | 0.128 | 1.617 |
| BS49300 | Warehousing and storage | 0.938 | 0.612 | 0.106 | 1.419 |
| BS51200 | Motion picture and sound recording industries | 0.717 | 0.299 | 0.105 | 1.467 |
| BS51510 | Radio and television broadcasting | 0.735 | 0.452 | 0.074 | 1.390 |
| BS51B00 | Publishing, pay/specialty services, telecommunications and other information services | 0.856 | 0.288 | 0.039 | 1.360 |
| BS52B00 | Depository credit intermediation and monetary authorities | 0.917 | 0.471 | 0.068 | 1.452 |
| BS52410 | Insurance carriers | 0.797 | 0.374 | 0.055 | 2.032 |
| BS53110 | Lessors of real estate | 0.884 | 0.233 | 0.043 | 1.475 |
| BS5311A | Owner-occupied dwellings | 0.978 | 0.025 | 0.004 | 1.156 |
| BS53B00 | Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works) | 0.872 | 0.398 | 0.054 | 1.501 |
| BS5A000 | Other finance, insurance and real estate services and management of companies and enterprises | 0.853 | 0.535 | 0.088 | 1.936 |
| BS541C0 | Legal, accounting and architectural, engineering and related services | 0.928 | 0.553 | 0.073 | 1.540 |
| BS541D0 | Computer systems design and other professional, scientific and technical services | 0.954 | 0.609 | 0.081 | 1.579 |
| BS54180 | Advertising, public relations, and related services | 0.875 | 0.528 | 0.091 | 1.684 |
| BS56100 | Administrative and support services | 0.955 | 0.613 | 0.119 | 1.511 |
| BS56200 | Waste management and remediation services | 0.958 | 0.358 | 0.052 | 1.341 |
| BS61000 | Educational services | 0.991 | 0.583 | 0.211 | 1.674 |
| BS62000 | Health care and social assistance | 0.999 | 0.508 | 0.107 | 1.454 |
| BS71000 | Arts, entertainment and recreation | 0.868 | 0.561 | 0.161 | 1.662 |

# TABLE 9

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS72000 | Accommodation and food services | 0.810 | 0.523 | 0.155 | 1.520 |
| BS81100 | Repair and maintenance | 0.905 | 0.550 | 0.091 | 1.502 |
| BS81A00 | Personal services and private households | 0.782 | 0.405 | 0.143 | 1.284 |
| BS81300 | Professional and similar organizations | 0.845 | 0.918 | 0.165 | 1.721 |
| NP61000 | Educational services | 0.979 | 0.783 | 0.157 | 1.405 |
| NP62400 | Social assistance | 1.009 | 0.835 | 0.204 | 1.459 |
| NP71000 | Arts, entertainment and recreation | 0.822 | 0.573 | 0.164 | 1.658 |
| NP81310 | Religious organizations | 0.883 | 0.652 | 0.162 | 1.604 |
| NPA0000 | Miscellaneous non-profit institutions serving households | 0.865 | 0.636 | 0.141 | 1.643 |
| GS611B0 | Educational services (except universities) | 1.011 | 0.808 | 0.124 | 1.439 |
| GS61130 | Universities | 0.988 | 0.565 | 0.081 | 1.345 |
| GS62200 | Hospitals | 0.964 | 0.762 | 0.088 | 1.588 |
| GS62300 | Nursing and residential care facilities | 1.063 | 0.854 | 0.117 | 1.522 |
| GS91100 | Other federal government services | 0.975 | 0.719 | 0.079 | 1.569 |
| GS91200 | Other provincial and territorial government services | 1.015 | 0.565 | 0.082 | 2.030 |
| GS91300 | Other municipal government services | 0.911 | 0.515 | 0.067 | 1.480 |
| GS91400 | Other aboriginal government services | 0.938 | 0.662 | 0.034 | 1.787 |

**Notes:** Simple/Total multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change. Simple/Total multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 10: Alberta Type II Multipliers (Industries)

## Closed Model with Safety Net - Direct , Indirect and Induced Impacts

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS11A00 | Crop and animal production | 2.015 | 4.162 | 2.204 | 2.034 |
| BS11300 | Forestry and logging | 2.348 | 1.872 | 2.275 | 1.889 |
| BS11400 | Fishing, hunting and trapping | 1.343 | 1.718 | 1.308 | 1.439 |
| BS11500 | Support activities for agriculture and forestry | 1.478 | 1.397 | 1.326 | 1.554 |
| BS21100 | Oil and gas extraction | 1.458 | 1.975 | 3.370 | 0.870 |
| BS21210 | Coal mining | 1.705 | 1.371 | 2.176 | 1.657 |
| BS21220 | Metal ore mining | 1.599 | 3.030 | 1.500 | 1.527 |
| BS21230 | Non-metallic mineral mining and quarrying | 1.466 | 1.543 | 1.833 | 1.492 |
| BS21300 | Support activities for mining and oil and gas extraction | 1.351 | 1.284 | 1.577 | 1.434 |
| BS22110 | Electric power generation, transmission and distribution | 1.475 | 1.386 | 1.871 | 1.518 |
| BS221A0 | Natural gas distribution, water, sewage and other systems | 1.301 | 1.316 | 1.463 | 1.397 |
| BS23A00 | Residential building construction | 1.728 | 1.669 | 1.689 | 1.629 |
| BS23B00 | Non-residential building construction | 1.856 | 1.708 | 1.870 | 1.678 |
| BS23C10 | Transportation engineering construction | 2.427 | 2.100 | 1.872 | 1.865 |
| BS23C20 | Oil and gas engineering construction | 2.059 | 1.669 | 1.817 | 1.790 |
| BS23C30 | Electric power engineering construction | 1.451 | 1.574 | 2.170 | 1.503 |
| BS23C40 | Communication engineering construction | 2.222 | 1.976 | 2.237 | 1.631 |
| BS23C50 | Other engineering construction | 1.910 | 1.698 | 2.142 | 1.727 |
| BS23D00 | Repair construction | 1.791 | 1.576 | 1.681 | 1.654 |
| BS23E00 | Other activities of the construction industry | 1.427 | 2.309 | 1.786 | 1.467 |
| BS31110 | Animal food manufacturing | 2.536 | 2.211 | 3.542 | 1.784 |
| BS31130 | Sugar and confectionery product manufacturing | 1.457 | 1.570 | 1.637 | 1.356 |
| BS31140 | Fruit and vegetable preserving and specialty food manufacturing | 1.891 | 1.858 | 2.383 | 1.562 |
| BS31150 | Dairy product manufacturing | 3.308 | 3.426 | 3.311 | 2.769 |
| BS31160 | Meat product manufacturing | 3.295 | 2.750 | 3.425 | 2.401 |
| BS31170 | Seafood product preparation and packaging | 2.414 | 2.133 | 1.184 | 1.520 |
| BS311A0 | Miscellaneous food manufacturing | 2.163 | 2.229 | 2.302 | 2.093 |
| BS31211 | Soft drink and ice manufacturing | 1.916 | 1.628 | 2.145 | 1.646 |
| BS31212 | Breweries | 1.274 | 1.487 | 1.706 | 1.360 |
| BS3121A | Wineries and distilleries | 1.346 | 1.664 | 2.059 | 1.489 |
| BS31220 | Tobacco manufacturing | 0.000 | 0.000 | 0.000 | 0.000 |

# TABLE 10

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS31A00 | Textile and textile product mills | 1.473 | 1.333 | 1.191 | 1.391 |
| BS31B00 | Clothing and leather and allied product manufacturing | 1.634 | 1.393 | 1.205 | 1.488 |
| BS32100 | Wood product manufacturing | 2.013 | 1.831 | 2.203 | 1.861 |
| BS32210 | Pulp, paper and paperboard mills | 2.182 | 1.788 | 2.514 | 1.710 |
| BS32220 | Converted paper product manufacturing | 1.705 | 1.395 | 1.567 | 1.418 |
| BS32300 | Printing and related support activities | 1.494 | 1.395 | 1.427 | 1.476 |
| BS32400 | Petroleum and coal product manufacturing | 3.716 | 6.587 | 9.789 | 3.361 |
| BS32510 | Basic chemical manufacturing | 1.676 | 2.929 | 5.587 | 1.718 |
| BS32530 | Pesticide, fertilizer and other agricultural chemical manufacturing | 2.232 | 2.767 | 3.534 | 1.938 |
| BS32540 | Pharmaceutical and medicine manufacturing | 1.860 | 1.961 | 2.680 | 1.616 |
| BS325C0 | Miscellaneous chemical product manufacturing | 1.627 | 1.354 | 1.375 | 1.465 |
| BS32610 | Plastic product manufacturing | 1.597 | 1.524 | 1.704 | 1.470 |
| BS32620 | Rubber product manufacturing | 1.590 | 1.445 | 1.630 | 1.475 |
| BS327A0 | Non-metallic mineral product manufacturing (except cement and concrete products) | 1.646 | 1.579 | 1.649 | 1.548 |
| BS32730 | Cement and concrete product manufacturing | 1.672 | 1.722 | 1.787 | 1.620 |
| BS33100 | Primary metal manufacturing | 2.309 | 1.740 | 2.308 | 1.481 |
| BS33200 | Fabricated metal product manufacturing | 1.564 | 1.419 | 1.605 | 1.498 |
| BS33300 | Machinery manufacturing | 1.564 | 1.430 | 1.596 | 1.441 |
| BS33410 | Computer and peripheral equipment manufacturing | 1.483 | 1.285 | 1.446 | 1.407 |
| BS334B0 | Electronic product manufacturing | 1.388 | 1.292 | 1.601 | 1.318 |
| BS335A0 | Electrical equipment and component manufacturing | 1.527 | 1.354 | 1.628 | 1.411 |
| BS33520 | Household appliance manufacturing | 2.286 | 1.659 | 1.855 | 1.766 |
| BS33610 | Motor vehicle manufacturing | 1.219 | 1.527 | 1.211 | 1.578 |
| BS33620 | Motor vehicle body and trailer manufacturing | 1.524 | 1.372 | 1.367 | 1.403 |
| BS33630 | Motor vehicle parts manufacturing | 1.687 | 1.406 | 1.408 | 1.441 |
| BS33640 | Aerospace product and parts manufacturing | 1.403 | 1.258 | 1.657 | 1.323 |
| BS33650 | Railroad rolling stock manufacturing | 1.815 | 1.591 | 1.229 | 1.653 |
| BS33660 | Ship and boat building | 1.555 | 1.368 | 1.231 | 1.390 |
| BS33690 | Other transportation equipment manufacturing | 2.007 | 1.541 | 1.477 | 1.529 |
| BS33700 | Furniture and related product manufacturing | 1.655 | 1.458 | 1.394 | 1.545 |
| BS33900 | Miscellaneous manufacturing | 1.523 | 1.400 | 1.532 | 1.486 |

# Table 10

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS41000 | Wholesale trade | 1.456 | 1.374 | 1.570 | 1.526 |
| BS4A000 | Retail trade | 1.535 | 1.376 | 1.270 | 1.599 |
| BS48100 | Air transportation | 2.090 | 1.853 | 1.918 | 1.778 |
| BS48200 | Rail transportation | 1.543 | 1.424 | 1.743 | 1.597 |
| BS48300 | Water transportation | 1.473 | 1.442 | 1.617 | 1.470 |
| BS48400 | Truck transportation | 1.994 | 1.789 | 1.877 | 1.782 |
| BS48B00 | Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation | 1.571 | 1.371 | 1.333 | 1.650 |
| BS48600 | Pipeline transportation | 1.253 | 1.574 | 3.534 | 1.342 |
| BS49A00 | Postal service, couriers and messengers | 1.565 | 1.375 | 1.286 | 1.617 |
| BS49300 | Warehousing and storage | 1.328 | 1.215 | 1.212 | 1.419 |
| BS51200 | Motion picture and sound recording industries | 1.550 | 1.758 | 1.304 | 1.467 |
| BS51510 | Radio and television broadcasting | 1.417 | 1.311 | 1.353 | 1.390 |
| BS51B00 | Publishing, pay/specialty services, telecommunications and other information services | 1.306 | 1.511 | 1.716 | 1.360 |
| BS52B00 | Depository credit intermediation and monetary authorities | 1.370 | 1.342 | 1.417 | 1.452 |
| BS52410 | Insurance carriers | 2.449 | 2.609 | 2.902 | 2.032 |
| BS53110 | Lessors of real estate | 1.426 | 2.038 | 1.797 | 1.475 |
| BS5311A | Owner-occupied dwellings | 1.121 | 0.000 | 0.000 | 1.156 |
| BS53B00 | Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works) | 1.445 | 1.485 | 1.681 | 1.501 |
| BS5A000 | Other finance, insurance and real estate services and management of companies and enterprises | 2.149 | 1.797 | 1.764 | 1.936 |
| BS541C0 | Legal, accounting and architectural, engineering and related services | 1.476 | 1.349 | 1.516 | 1.540 |
| BS541D0 | Computer systems design and other professional, scientific and technical services | 1.511 | 1.336 | 1.473 | 1.579 |
| BS54180 | Advertising, public relations, and related services | 1.775 | 1.562 | 1.560 | 1.684 |
| BS56100 | Administrative and support services | 1.426 | 1.283 | 1.249 | 1.511 |
| BS56200 | Waste management and remediation services | 1.241 | 1.327 | 1.404 | 1.341 |
| BS61000 | Educational services | 1.624 | 1.465 | 1.198 | 1.674 |
| BS62000 | Health care and social assistance | 1.344 | 1.308 | 1.260 | 1.454 |
| BS71000 | Arts, entertainment and recreation | 1.729 | 1.511 | 1.298 | 1.662 |

# Table 10

| "Link 1961" Industry Code | Industry Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| BS72000 | Accommodation and food services | 1.516 | 1.370 | 1.232 | 1.520 |
| BS81100 | Repair and maintenance | 1.439 | 1.318 | 1.343 | 1.502 |
| BS81A00 | Personal services and private households | 1.466 | 1.419 | 1.181 | 1.541 |
| BS81300 | Professional and similar organizations | 1.907 | 1.271 | 1.258 | 1.721 |
| NP61000 | Educational services | 1.305 | 1.147 | 1.134 | 1.405 |
| NP62400 | Social assistance | 1.343 | 1.167 | 1.122 | 1.459 |
| NP71000 | Arts, entertainment and recreation | 1.790 | 1.491 | 1.274 | 1.658 |
| NP81310 | Religious organizations | 1.596 | 1.324 | 1.208 | 1.604 |
| NPA0000 | Miscellaneous non-profit institutions serving households | 1.689 | 1.379 | 1.273 | 1.643 |
| GS611B0 | Educational services (except universities) | 1.335 | 1.179 | 1.211 | 1.439 |
| GS61130 | Universities | 1.246 | 1.185 | 1.242 | 1.345 |
| GS62200 | Hospitals | 1.523 | 1.321 | 1.473 | 1.588 |
| GS62300 | Nursing and residential care facilities | 1.380 | 1.195 | 1.259 | 1.522 |
| GS91100 | Other federal government services | 1.483 | 1.276 | 1.494 | 1.569 |
| GS91200 | Other provincial and territorial government services | 2.428 | 2.012 | 2.131 | 2.030 |
| GS91300 | Other municipal government services | 1.324 | 1.315 | 1.430 | 1.480 |
| GS91400 | Other aboriginal government services | 1.820 | 1.531 | 0.000 | 1.787 |

**Notes:** Type I/II multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change.
Type I/II multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 11: Alberta Total Multipliers (Commodities at Basic Prices)

## Closed Model with Safety Net - Direct, Indirect and Induced Impacts

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M111B | Grains and other crop products | 0.729 | 0.142 | 0.034 | 1.534 |
| M112A | Live animals | 0.536 | 0.292 | 0.123 | 2.871 |
| M11D0 | Other farm products | 0.538 | 0.292 | 0.122 | 2.865 |
| M11E0 | Forestry products and services | 0.731 | 0.475 | 0.058 | 1.880 |
| M1140 | Fish, crustaceans, shellfish and other fishery products | 0.708 | 0.221 | 0.069 | 1.616 |
| M1150 | Support services related to farming and forestry | 0.711 | 0.375 | 0.079 | 2.029 |
| M21B0 | Mineral fuels | 0.832 | 0.239 | 0.024 | 0.932 |
| M2122 | Metal ores and concentrates | 0.746 | 0.205 | 0.066 | 1.527 |
| M2123 | Non-metallic minerals | 0.813 | 0.313 | 0.037 | 1.176 |
| M2130 | Mineral support services | 0.880 | 0.533 | 0.061 | 1.553 |
| M21A0 | Mineral and oil and gas exploration | 0.876 | 0.433 | 0.042 | 1.256 |
| M2200 | Utilities | 0.922 | 0.441 | 0.045 | 1.491 |
| M23A0 | Residential construction | 0.731 | 0.386 | 0.059 | 1.629 |
| M23B0 | Non-residential buildings | 0.722 | 0.409 | 0.055 | 1.678 |
| M23C0 | Engineering construction | 0.761 | 0.451 | 0.056 | 1.774 |
| M23D0 | Repair construction services | 0.731 | 0.446 | 0.063 | 1.654 |
| M31C0 | Food and non-alcoholic beverages | 0.562 | 0.293 | 0.055 | 2.224 |
| M312A | Alcoholic beverages and tobacco products | 0.794 | 0.238 | 0.032 | 1.398 |
| M31D0 | Textile products, clothing, and products of leather and similar materials | 0.689 | 0.442 | 0.118 | 1.461 |
| M3210 | Wood products | 0.776 | 0.446 | 0.052 | 1.850 |
| M3220 | Wood pulp, paper and paper products and paper stock | 0.591 | 0.352 | 0.037 | 1.675 |
| M3230 | Printed products and services | 0.761 | 0.439 | 0.068 | 1.478 |
| M3240 | Refined petroleum products (except petrochemicals) | 0.800 | 0.116 | 0.013 | 3.311 |
| M3250 | Chemical products | 0.731 | 0.188 | 0.022 | 1.856 |
| M3260 | Plastic and rubber products | 0.620 | 0.332 | 0.042 | 1.482 |
| M3270 | Non-metallic mineral products | 0.725 | 0.348 | 0.049 | 1.601 |
| M3310 | Primary metallic products | 0.426 | 0.285 | 0.030 | 1.492 |
| M3320 | Fabricated metallic products | 0.678 | 0.406 | 0.050 | 1.495 |
| M3330 | Industrial machinery | 0.633 | 0.361 | 0.043 | 1.445 |
| M334C | Computers and electronic products | 0.622 | 0.368 | 0.038 | 1.342 |
| M3350 | Electrical equipment, appliances and components | 0.611 | 0.387 | 0.042 | 1.415 |
| M336A | Transportation equipment | 0.598 | 0.373 | 0.049 | 1.387 |
| M3363 | Motor vehicle parts | 0.622 | 0.416 | 0.062 | 1.461 |
| M3370 | Furniture and related products | 0.686 | 0.439 | 0.079 | 1.542 |
| M3B00 | Other manufactured products and custom work | 0.737 | 0.427 | 0.062 | 1.520 |
| M4100 | Wholesale margins and commissions | 0.904 | 0.495 | 0.063 | 1.527 |

# Table 11

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M4A00 | Retail margins, sales of used goods and commissions | 0.946 | 0.589 | 0.136 | 1.594 |
| M4B00 | Transportation and related services | 0.839 | 0.427 | 0.063 | 1.644 |
| M51D0 | Information and cultural services | 0.783 | 0.445 | 0.068 | 1.450 |
| M51E0 | Published and recorded media products | 0.890 | 0.457 | 0.071 | 1.495 |
| M5170 | Telecommunications | 0.859 | 0.260 | 0.036 | 1.346 |
| M52C0 | Depository credit intermediation | 0.937 | 0.479 | 0.068 | 1.410 |
| M5F00 | Other finance and insurance | 0.885 | 0.488 | 0.069 | 1.515 |
| M53D0 | Real estate, rental and leasing and rights to non-financial intangible assets | 0.882 | 0.318 | 0.052 | 1.501 |
| M53C0 | Imputed rental of owner-occupied dwellings | 0.978 | 0.025 | 0.004 | 1.156 |
| M541E | Professional services (except software and research and development) | 0.925 | 0.545 | 0.076 | 1.557 |
| M5E00 | Software | 0.920 | 0.531 | 0.069 | 1.468 |
| M5417 | Research and development | 0.938 | 0.493 | 0.063 | 1.333 |
| M5G00 | Administrative and support, head office, waste management and remediation services | 0.937 | 0.545 | 0.100 | 1.471 |
| M6100 | Education services | 1.000 | 0.645 | 0.132 | 1.485 |
| M6200 | Health and social assistance services | 0.996 | 0.551 | 0.108 | 1.477 |
| M7100 | Arts, entertainment and recreation services | 0.874 | 0.558 | 0.140 | 1.632 |
| M7200 | Accommodation and food services | 0.814 | 0.524 | 0.154 | 1.523 |
| M8100 | Other services | 0.921 | 0.574 | 0.113 | 1.513 |
| M9A00 | Sales of other services by Non-Profit Institutions Serving Households | 0.864 | 0.626 | 0.145 | 1.641 |
| M9B00 | Sales of other government services | 0.963 | 0.663 | 0.079 | 1.699 |
| N0000 | Services provided by Non-Profit Institutions Serving Households | 0.902 | 0.687 | 0.159 | 1.579 |
| G6100 | Education services provided by government sector | 1.005 | 0.760 | 0.116 | 1.418 |
| G6200 | Health services provided by government sector | 0.976 | 0.773 | 0.091 | 1.580 |
| G9110 | Other federal government services | 0.952 | 0.692 | 0.081 | 1.532 |
| G9120 | Other provincial and territorial government services | 0.939 | 0.554 | 0.082 | 2.103 |
| G9130 | Other municipal government services | 0.955 | 0.515 | 0.067 | 1.480 |
| G9140 | Other aboriginal government services | 0.938 | 0.662 | 0.034 | 1.787 |

**Notes:** Simple/Total multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change. Simple/Total multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 12: Alberta Total Multipliers (Commodities at Purchaser Prices)

## Closed Model with Safety Net - Direct, Indirect and Induced Impacts

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M111B | Grains and other crop products | 0.688 | 0.134 | 0.033 | 1.446 |
| M112A | Live animals | 0.520 | 0.284 | 0.119 | 2.786 |
| M11D0 | Other farm products | 0.503 | 0.273 | 0.115 | 2.682 |
| M11E0 | Forestry products and services | 0.725 | 0.471 | 0.058 | 1.865 |
| M1140 | Fish, crustaceans, shellfish and other fishery products | 0.580 | 0.181 | 0.057 | 1.323 |
| M1150 | Support services related to farming and forestry | 0.711 | 0.375 | 0.079 | 2.029 |
| M21B0 | Mineral fuels | 0.495 | 0.143 | 0.014 | 0.555 |
| M2122 | Metal ores and concentrates | 0.746 | 0.205 | 0.066 | 1.527 |
| M2123 | Non-metallic minerals | 0.545 | 0.210 | 0.025 | 0.788 |
| M2130 | Mineral support services | 0.880 | 0.533 | 0.061 | 1.553 |
| M21A0 | Mineral and oil and gas exploration | 0.876 | 0.433 | 0.042 | 1.256 |
| M2200 | Utilities | 0.869 | 0.415 | 0.042 | 1.405 |
| M23A0 | Residential construction | 0.700 | 0.370 | 0.056 | 1.561 |
| M23B0 | Non-residential buildings | 0.719 | 0.407 | 0.055 | 1.672 |
| M23C0 | Engineering construction | 0.761 | 0.451 | 0.056 | 1.774 |
| M23D0 | Repair construction services | 0.699 | 0.426 | 0.060 | 1.581 |
| M31C0 | Food and non-alcoholic beverages | 0.406 | 0.212 | 0.039 | 1.607 |
| M312A | Alcoholic beverages and tobacco products | 0.506 | 0.152 | 0.021 | 0.890 |
| M31D0 | Textile products, clothing, and products of leather and similar materials | 0.419 | 0.269 | 0.072 | 0.888 |
| M3210 | Wood products | 0.530 | 0.305 | 0.035 | 1.264 |
| M3220 | Wood pulp, paper and paper products and paper stock | 0.554 | 0.330 | 0.035 | 1.569 |
| M3230 | Printed products and services | 0.426 | 0.246 | 0.038 | 0.827 |
| M3240 | Refined petroleum products (except petrochemicals) | 0.551 | 0.080 | 0.009 | 2.281 |
| M3250 | Chemical products | 0.629 | 0.162 | 0.019 | 1.597 |
| M3260 | Plastic and rubber products | 0.452 | 0.242 | 0.031 | 1.081 |
| M3270 | Non-metallic mineral products | 0.621 | 0.298 | 0.042 | 1.372 |
| M3310 | Primary metallic products | 0.424 | 0.284 | 0.030 | 1.485 |
| M3320 | Fabricated metallic products | 0.584 | 0.350 | 0.043 | 1.289 |
| M3330 | Industrial machinery | 0.486 | 0.277 | 0.033 | 1.109 |
| M334C | Computers and electronic products | 0.460 | 0.272 | 0.028 | 0.992 |
| M3350 | Electrical equipment, appliances and components | 0.511 | 0.324 | 0.035 | 1.184 |
| M336A | Transportation equipment | 0.561 | 0.350 | 0.046 | 1.301 |
| M3363 | Motor vehicle parts | 0.492 | 0.329 | 0.049 | 1.155 |
| M3370 | Furniture and related products | 0.427 | 0.274 | 0.049 | 0.961 |
| M3B00 | Other manufactured products and custom work | 0.584 | 0.338 | 0.049 | 1.205 |
| M4100 | Wholesale margins and commissions | 0.904 | 0.495 | 0.063 | 1.527 |

# Table 12

| "Summary" Commodity Code | Commodity Title | GDP at Basic Prices | Labour Income* | Employment | Output |
|---|---|---|---|---|---|
| M4A00 | Retail margins, sales of used goods and commissions | 0.377 | 0.235 | 0.054 | 0.636 |
| M4B00 | Transportation and related services | 0.737 | 0.375 | 0.056 | 1.444 |
| M51D0 | Information and cultural services | 0.761 | 0.433 | 0.066 | 1.410 |
| M51E0 | Published and recorded media products | 0.700 | 0.359 | 0.056 | 1.175 |
| M5170 | Telecommunications | 0.825 | 0.250 | 0.035 | 1.293 |
| M52C0 | Depository credit intermediation | 0.933 | 0.477 | 0.068 | 1.403 |
| M5F00 | Other finance and insurance | 0.885 | 0.488 | 0.069 | 1.515 |
| M53D0 | Real estate, rental and leasing and rights to non-financial intangible assets | 0.863 | 0.311 | 0.051 | 1.469 |
| M53C0 | Imputed rental of owner-occupied dwellings | 0.978 | 0.025 | 0.004 | 1.156 |
| M541E | Professional services (except software and research and development) | 0.896 | 0.527 | 0.073 | 1.507 |
| M5E00 | Software | 0.919 | 0.530 | 0.069 | 1.466 |
| M5417 | Research and development | 0.938 | 0.493 | 0.063 | 1.332 |
| M5G00 | Administrative and support, head office, waste management and remediation services | 0.919 | 0.535 | 0.098 | 1.442 |
| M6100 | Education services | 0.990 | 0.638 | 0.131 | 1.471 |
| M6200 | Health and social assistance services | 0.996 | 0.551 | 0.108 | 1.477 |
| M7100 | Arts, entertainment and recreation services | 0.842 | 0.537 | 0.135 | 1.572 |
| M7200 | Accommodation and food services | 0.782 | 0.503 | 0.148 | 1.463 |
| M8100 | Other services | 0.882 | 0.550 | 0.109 | 1.449 |
| M9A00 | Sales of other services by Non-Profit Institutions Serving Households | 0.864 | 0.626 | 0.145 | 1.641 |
| M9B00 | Sales of other government services | 0.963 | 0.663 | 0.079 | 1.699 |
| N0000 | Services provided by Non-Profit Institutions Serving Households | 0.902 | 0.687 | 0.159 | 1.579 |
| G6100 | Education services provided by government sector | 1.005 | 0.760 | 0.116 | 1.418 |
| G6200 | Health services provided by government sector | 0.976 | 0.773 | 0.091 | 1.580 |
| G9110 | Other federal government services | 0.952 | 0.692 | 0.081 | 1.532 |
| G9120 | Other provincial and territorial government services | 0.939 | 0.554 | 0.082 | 2.103 |
| G9130 | Other municipal government services | 0.955 | 0.515 | 0.067 | 1.480 |
| G9140 | Other aboriginal government services | 0.938 | 0.662 | 0.034 | 1.787 |

**Notes:** Simple/Total multipliers for GDP, Labour Income and Output expressed as total impact per dollar of output change. Simple/Total multipliers for employment expressed as total number of jobs required per $10,000 of output change.

* Please note that all employment impacts are measured in person-years.

* Includes labour income of the unincorporated sector.

# Table 13: Alberta Commodity Supply Ratios

Percent

| "Summary" Commodity Code | Commodity Title | Alberta | Rest of Canada | Rest of World | Total Supply |
|---|---|---|---|---|---|
| M111B | Grains and other crop products | 71.5 | 11.5 | 17.1 | 100.0 |
| M112A | Live animals | 71.1 | 28.1 | 0.7 | 100.0 |
| M11D0 | Other farm products | 96.9 | 2.9 | 0.1 | 100.0 |
| M11E0 | Forestry products and services | 80.5 | 18.9 | 0.6 | 100.0 |
| M1140 | Fish, crustaceans, shellfish and other fishery products | 1.9 | 95.8 | 2.3 | 100.0 |
| M1150 | Support services related to farming and forestry | 88.0 | 12.0 | 0.0 | 100.0 |
| M21B0 | Mineral fuels | 79.2 | 11.1 | 9.7 | 100.0 |
| M2122 | Metal ores and concentrates | 0.0 | 0.0 | 100.0 | 100.0 |
| M2123 | Non-metallic minerals | 61.3 | 30.5 | 8.2 | 100.0 |
| M2130 | Mineral support services | 32.7 | 67.3 | 0.0 | 100.0 |
| M21A0 | Mineral and oil and gas exploration | 97.4 | 2.4 | 0.2 | 100.0 |
| M2200 | Utilities | 95.7 | 4.2 | 0.1 | 100.0 |
| M23A0 | Residential construction | 100.0 | 0.0 | 0.0 | 100.0 |
| M23B0 | Non-residential buildings | 100.0 | 0.0 | 0.0 | 100.0 |
| M23C0 | Engineering construction | 100.0 | 0.0 | 0.0 | 100.0 |
| M23D0 | Repair construction services | 100.0 | 0.0 | 0.0 | 100.0 |
| M31C0 | Food and non-alcoholic beverages | 22.9 | 51.2 | 25.8 | 100.0 |
| M312A | Alcoholic beverages and tobacco products | 12.1 | 39.2 | 48.6 | 100.0 |
| M31D0 | Textile products, clothing, and products of leather and similar materials | 1.6 | 2.0 | 96.4 | 100.0 |
| M3210 | Wood products | 56.4 | 33.1 | 10.5 | 100.0 |
| M3220 | Wood pulp, paper and paper products and paper stock | 15.1 | 26.0 | 59.0 | 100.0 |
| M3230 | Printed products and services | 57.5 | 23.9 | 18.6 | 100.0 |
| M3240 | Refined petroleum products (except petrochemicals) | 70.8 | 10.1 | 19.1 | 100.0 |
| M3250 | Chemical products | 41.1 | 17.2 | 41.6 | 100.0 |
| M3260 | Plastic and rubber products | 27.9 | 30.5 | 41.6 | 100.0 |
| M3270 | Non-metallic mineral products | 50.4 | 16.1 | 33.4 | 100.0 |
| M3310 | Primary metallic products | 18.5 | 32.4 | 49.1 | 100.0 |
| M3320 | Fabricated metallic products | 43.7 | 18.0 | 38.3 | 100.0 |
| M3330 | Industrial machinery | 27.6 | 10.8 | 61.6 | 100.0 |
| M334C | Computers and electronic products | 2.8 | 1.2 | 96.0 | 100.0 |
| M3350 | Electrical equipment, appliances and components | 5.1 | 20.3 | 74.7 | 100.0 |
| M336A | Transportation equipment | 1.4 | 15.9 | 82.7 | 100.0 |
| M3363 | Motor vehicle parts | 1.3 | 5.6 | 93.1 | 100.0 |
| M3370 | Furniture and related products | 18.1 | 36.0 | 45.8 | 100.0 |
| M3B00 | Other manufactured products and custom work | 29.5 | 11.7 | 58.8 | 100.0 |
| M4100 | Wholesale margins and commissions | 64.7 | 35.0 | 0.4 | 100.0 |

# TABLE 13

| "Summary" Commodity Code | Commodity Title | Alberta | Rest of Canada | Rest of World | Total Supply |
|---|---|---|---|---|---|
| M4A00 | Retail margins, sales of used goods and commissions | 93.9 | 5.2 | 0.9 | 100.0 |
| M4B00 | Transportation and related services | 72.1 | 25.3 | 2.7 | 100.0 |
| M51D0 | Information and cultural services | 49.4 | 39.0 | 11.6 | 100.0 |
| M51E0 | Published and recorded media products | 32.1 | 20.5 | 47.4 | 100.0 |
| M5170 | Telecommunications | 76.7 | 19.0 | 4.3 | 100.0 |
| M52C0 | Depository credit intermediation | 89.2 | 4.5 | 6.4 | 100.0 |
| M5F00 | Other finance and insurance | 64.5 | 32.0 | 3.4 | 100.0 |
| M53D0 | Real estate, rental and leasing and rights to non-financial intangible assets | 93.2 | 2.6 | 4.2 | 100.0 |
| M53C0 | Imputed rental of owner-occupied dwellings | 100.0 | 0.0 | 0.0 | 100.0 |
| M541E | Professional services (except software and research and development) | 74.7 | 17.2 | 8.1 | 100.0 |
| M5E00 | Software | 67.7 | 16.1 | 16.2 | 100.0 |
| M5417 | Research and development | 98.0 | 0.1 | 1.9 | 100.0 |
| M5G00 | Administrative and support, head office, waste management and remediation services | 66.6 | 20.4 | 13.0 | 100.0 |
| M6100 | Education services | 93.2 | 5.7 | 1.1 | 100.0 |
| M6200 | Health and social assistance services | 97.6 | 2.4 | 0.0 | 100.0 |
| M7100 | Arts, entertainment and recreation services | 84.7 | 13.0 | 2.3 | 100.0 |
| M7200 | Accommodation and food services | 89.1 | 7.7 | 3.2 | 100.0 |
| M8100 | Other services | 93.4 | 5.8 | 0.8 | 100.0 |
| M9A00 | Sales of other services by Non-Profit Institutions Serving Households | 100.0 | 0.0 | 0.0 | 100.0 |
| M9B00 | Sales of other government services | 99.7 | 0.0 | 0.3 | 100.0 |
| N0000 | Services provided by Non-Profit Institutions Serving Households | 100.0 | 0.0 | 0.0 | 100.0 |
| G6100 | Education services provided by government sector | 100.0 | 0.0 | 0.0 | 100.0 |
| G6200 | Health services provided by government sector | 100.0 | 0.0 | 0.0 | 100.0 |
| G9110 | Other federal government services | 100.0 | 0.0 | 0.0 | 100.0 |
| G9120 | Other provincial and territorial government services | 100.0 | 0.0 | 0.0 | 100.0 |
| G9130 | Other municipal government services | 100.0 | 0.0 | 0.0 | 100.0 |
| G9140 | Other aboriginal government services | 100.0 | 0.0 | 0.0 | 100.0 |

# Appendix 1:

## Industry Concordance: "Link 1961" ↔ "Detailed"

| "Link 1961" Industry Title | "Link 1961" Codes | "Detailed" Industry Codes |
|---|---|---|
| Crop and animal production | BS11A00 | BS111A00, BS111400, BS112A00, BS112B00 |
| Forestry and logging | BS11300 | BS113000 |
| Fishing, hunting and trapping | BS11400 | BS114000 |
| Support activities for agriculture and forestry | BS11500 | BS115A00, BS115300 |
| Oil and gas extraction | BS21100 | BS211113, BS211114 |
| Coal mining | BS21210 | BS212100 |
| Metal ore mining | BS21220 | BS212210, BS212220, BS212230, BS212290 |
| Non-metal mineral mining and quarrying | BS21230 | BS212310, BS212320, BS212392, BS21239A, BS212396 |
| Support activities for mining and oil and gas extraction | BS21300 | BS21311A, BS21311B |
| Electric power generation, transmission and distribution | BS22110 | BS221100 |
| Natural gas distribution, water, sewage and other systems | BS221A0 | BS221200, BS221300 |
| Residential building construction | BS23A00 | BS23A000 |
| Non-residential building construction | BS23B00 | BS23B000 |
| Transportation engineering construction | BS23C10 | BS23C100 |
| Oil and gas engineering construction | BS23C20 | BS23C200 |
| Electric power engineering construction | BS23C30 | BS23C300 |
| Communication engineering construction | BS23C40 | BS23C400 |
| Other engineering construction | BS23C50 | BS23C500 |
| Repair construction | BS23D00 | BS23D000 |
| Other activities of the construction industry | BS23E00 | BS23E000 |
| Animal food manufacturing | BS31110 | BS311100 |
| Sugar and confectionery product manufacturing | BS31130 | BS311300 |
| Fruit and vegetable preserving and specialty food manufacturing | BS31140 | BS311400 |
| Dairy product manufacturing | BS31150 | BS311500 |
| Meat product manufacturing | BS31160 | BS311600 |
| Seafood product preparation and packaging | BS31170 | BS311700 |
| Miscellaneous food manufacturing | BS311A0 | BS311200, BS311700,BS311800 |
| Soft drink and ice manufacturing | BS31211 | BS312110 |
| Breweries | BS31212 | BS312120 |
| Wineries and distilleries | BS3121A | BS3121A0 |
| Tobacco manufacturing | BS31220 | BS312200 |

# Appendix 1

| "Link 1961" Industry Title | "Link 1961" Codes | "Detailed" Industry Codes |
|---|---|---|
| Textile and textile product mills | BS31A00 | BS31A000 |
| Clothing and leather and allied product manufacturing | BS31B00 | BS31B000 |
| Wood product manufacturing | BS32100 | BS321100, BS321200, BS321900 |
| Pulp, paper and paperboard mills | BS32210 | BS322100 |
| Converted paper product manufacturing | BS32220 | BS322200 |
| Printing and related support activities | BS32300 | BS323000 |
| Petroleum and coal products manufacturing | BS32400 | BS324110, BS3241A0 |
| Basic chemical manufacturing | BS32510 | BS325100 |
| Pesticides, fertilizer and other agricultural chemical manufacturing | BS32530 | BS325300 |
| Pharmaceutical and medicine manufacturing | BS32540 | BS325400 |
| Miscellaneous chemical product manufacturing | BS325A0 | BS325200,BS325500, BS325600, BS325900 |
| Plastic product manufacturing | BS32610 | BS326100 |
| Rubber product manufacturing | BS32620 | BS326200 |
| Non-metallic mineral product manufacturing (except cement and concrete products) | BS327A0 | BS327A00 |
| Cement and concrete product manufacturing | BS32730 | BS327300 |
| Primary metal manufacturing | BS33100 | BS332100, BS331200, BS331300, BS331400, BS331500 |
| Fabricated metal product manufacturing | BS33200 | BS332A00, BS332300, BS332400, BS332500, BS332600, BS332700, BS332800 |
| Machinery manufacturing | BS33300 | BS333100, BS333200, BS333300, BS333400, BS333500, BS333600, BS333900 |
| Computer and peripheral equipment manufacturing | BS33410 | BS334100 |
| Electronic product manufacturing | BS334B0 | BS334200, BS334A00, BS334400 |
| Electrical equipment and component manufacturing | BS335A0 | BS335100, BS335300, BS335900 |
| Household appliance manufacturing | BS33520 | BS335200 |
| Motor vehicle manufacturing | BS33610 | BS336110, BS336120 |
| Motor vehicle body and trailer manufacturing | BS33620 | BS336200 |
| Other motor vehicle parts manufacturing | BS33630 | BS336310, BS336320, BS336330, BS336340, BS336350, BS336360, BS336370, BS336390 |
| Aerospace product and parts manufacturing | BS33640 | BS336400 |
| Railroad rolling stock manufacturing | BS33650 | BS336500 |
| Ship and boat building | BS33660 | BS336600 |
| Other transportation equipment manufacturing | BS33690 | BS336900 |

# Appendix 1

| "Link 1961" Industry Title | "Link 1961" Codes | "Detailed" Industry Codes |
|---|---|---|
| Furniture and related product manufacturing | BS33700 | BS337100, BS337200, BS337900 |
| Miscelleneous manufacturing | BS33900 | BS339100, BS339900 |
| Wholesale trade | BS41000 | BS411000, BS412000, BS413000, BS414000, BS415000, BS416000, BS417000, BS418000, BS419000 |
| Retail trade | BS4A000 | BS441000, BS442000, BS443000, BS444000, BS445000, BS446000, BS447000, BS448000, BS451000, BS452000, BS453000, BS454000 |
| Air transportation | BS48100 | BS481000 |
| Rail transportation | BS48200 | BS482000 |
| Water transportation | BS48300 | BS483000 |
| Truck transportation | BS48400 | BS484000 |
| Transit, ground passenger and scenic and sightseeing transportation, taxi and limousine service and support activities for transportation | BS48B00 | BS485100, BS48A000, BS485300, BS488000 |
| Pipeline transportation | BS48600 | BS486A00, BS486200 |
| Postal service and couriers and messengers | BS49A00 | BS491000, BS492000 |
| Warehousing and storage | BS49300 | BS493000 |
| Motion picture and sound recording industries | BS51200 | BS5121A0, BS512130, BS512200 |
| Radio and television broadcasting | BS51510 | BS515100 |
| Publishing, pay/specialty services, telecommunications and other information services | BS51B00 | BS511110, BS5111A0, BS511200, BS515200, BS517000, BS518000, BS519000 |
| Depository credit intermediation and monetary authorities | BS52B00 | BS521000, BS5221A0, BS522130 |
| Insurance carriers | BS52410 | BS524100 |
| Lessors of real estate | BS53110 | BS531100 |
| Owner-occupied dwellings | BS5311A | BS5311A0 |
| Rental and leasing services and lessors of non-financial intangible assets (except copyrighted works) | BS53B00 | BS532100, BS532A00, BS533000 |
| Other finance, insurance and real estate services and management of companies and enterprises | BS5A000 | BS522200,BS524200,BS24A000 |
| Legal, accounting and architectural, engineering and related services | BS541C0 | BS541100, BS541200, BS541300,BS41400 |
| Computer systems design and other professional, scientific and technical services | BS541D0 | BS541500, BS541600, BS541700, BS541900,BS551113 |
| Advertising, public relations and related services | BS54180 | BS541800 |
| Administrative and support services | BS56100 | BS561100, BS561A00, BS561300, BS561400, BS561500, BS561600, BS561700 |

# Appendix 1

| "Link 1961" Industry Title | "Link 1961" Codes | "Detailed" Industry Codes |
|---|---|---|
| Waste management and remediation services | BS56200 | BS562000 |
| Educational services | BS61000 | BS610000 |
| Health care services and social assistance | BS62000 | BS621100, BS621200, BS621A00, BS623000, BS624000 |
| Arts, entertainment and recreation | BS71000 | BS71A000, BS713A00, BS713200 |
| Accommodation and food services | BS72000 | BS721100, BS721A00, BS722000 |
| Repair and maintenance | BS81100 | BS811100, BS811A00 |
| Personal services and private households | BS81A00 | BS812A00, BS812200, BS812300, BS814000 |
| Professional and similar organisations | BS81300 | BS813000 |
| Repair and maintenance | FC11000 | FC110000 |
| Operating supplies | FC12000 | FC120000 |
| Office supplies | FC13000 | FC130000 |
| Advertising, promotion, meals, entertainment, travel, meeting and convention expenses | FC20000 | FC210000, FC220000 |
| Transportation margins | FC30000 | FC300000 |
| Non-profit education services | NP61000 | NP610000 |
| Non-profit social assistance | NP62400 | NP624000 |
| Non-profit arts, entertainment and recreation | NP71000 | NP710000 |
| Religious organizations | NP81310 | NP813100 |
| Miscellaneous non-profit institutions serving households | NPA0000 | NP621000, NP813A00, NP999999 |
| Educational services | GS611B0 | GS611100, GS611200, GS611A00 |
| Universities | GS61130 | GS611300 |
| Hospitals | GS62200 | GS622000 |
| Nursing and residential care facilities | GS62300 | GS623000 |
| Other federal government services (including defence) | GS91100 | GS911100, GS911A00 |
| Other provincial and territorial government services | GS91200 | GS912000 |
| Other municipal government services | GS91300 | GS913000 |
| Other aboriginal government services | GS91400 | GS914000 |

# Appendix 2:

## Industry Codes: "Detailed" ↔ North American Industry Classification System (NAICS)

| "Detailed" Industry Codes | "Detailed" Industry Title | NAICS 2007 Definition | NAICS 2017 Definition |
|---|---|---|---|
| BS111A00 | Crop production (except greenhouse, nursery and floriculture production) | 111 excl. 1114 | 111 excl. 1114 |
| BS111400 | Greenhouse, nursery and floriculture production | 1114 | 1114 |
| BS112000 | Animal production (except aquaculture) | 112 excl. 1125 | 112 |
| BS112500 | Aquaculture | 1125 | 1125 |
| BS113000 | Forestry and logging | 113 | 113 |
| BS114000 | Fishing, hunting and trapping | 114 | 114 |
| BS115A00 | Support activities for crop and animal production | 1151, 1152 | 1151, 1152 |
| BS115300 | Support activities for forestry | 1153 | 1153 |
| BS211113 | Conventional oil and gas extraction | 211113 | 211113 |
| BS211114 | Non-conventional oil extraction | 211114 | 211114 |
| BS212100 | Coal mining | 2121 | 2121 |
| BS212210 | Iron ore mining | 21221 | 21221 |
| BS212220 | Gold and silver ore mining | 21222 | 21222 |
| BS212230 | Copper, nickel, lead and zinc ore mining | 21223 | 21223 |
| BS212290 | Other metal ore mining | 21229 | 21229 |
| BS212310 | Stone mining and quarrying | 21231 | 21231 |
| BS212320 | Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying | 21232 | 21232 |
| BS212392 | Diamond mining | 212392 | 212392 |
| BS21239A | Other non-metallic mineral mining and quarrying (except diamond and potash) | 212394, 212395, 212397, 212398 | 212394, 212395,212398,212397, 212398 |
| BS212396 | Potash mining | 212396 | 212396 |
| BS21311A | Support activities for oil and gas extraction | 213111, 213118 | 213111, 213118 |
| BS21311B | Support activities for mining | 213117, 213119 | 213117, 213119 |
| BS221100 | Electric power generation, transmission and distribution | 2211 | 2211 |
| BS221200 | Natural gas distribution | 2212 | 2212 |
| BS221300 | Water, sewage and other systems | 2213 | 2213 |
| BS23A000 | Residential building construction | ND | ND |
| BS23B000 | Non-residential building construction | ND | ND |
| BS23C100 | Transportation engineering construction | ND | ND |
| BS23C200 | Oil and gas engineering construction | ND | ND |
| BS23C300 | Electric power engineering construction | ND | ND |
| BS23C400 | Communication engineering construction | ND | ND |
| BS23C500 | Other engineering construction | ND | ND |
| BS23D000 | Repair construction | ND | ND |

# Appendix 2

| "Detailed" Industry Codes | "Detailed" Industry Title | NAICS 2007 Definition | NAICS 2017 Definition |
|---|---|---|---|
| BS23E000 | Other activities of the construction industry | ND | ND |
| BS311100 | Animal food manufacturing | 3111 | 3111 |
| BS311200 | Grain and oilseed milling | 3112 | 3112 |
| BS311300 | Sugar and confectionery product manufacturing | 3113 | 3113 |
| BS311400 | Fruit and vegetable preserving and specialty food manufacturing | 3114 | 3114 |
| BS311500 | Dairy product manufacturing | 3115 | 3115 |
| BS311600 | Meat product manufacturing | 3116 | 3116 |
| BS311700 | Seafood product preparation and packaging | 3117 | 3117 |
| BS311800 | Bakeries and tortilla manufacturing | 3118 | 3118 |
| BS311900 | Other food manufacturing | 3119 | 3119 |
| BS312110 | Soft drink and ice manufacturing | 31211 | 31211 |
| BS312120 | Breweries | 31212 | 31212 |
| BS3121A0 | Wineries and distilleries | 31213, 31214 | 31213, 31214 |
| BS312200 | Tobacco manufacturing | 3122 | 3122 |
| BS31A000 | Textile and textile product mills | 313, 314 | 313, 314 |
| BS31B000 | Clothing and leather and allied product manufacturing | 315, 316 | 315, 316 |
| BS321100 | Sawmills and wood preservation | 3211 | 3211 |
| BS321200 | Veneer, plywood and engineered wood product manufacturing | 3212 | 3212 |
| BS321900 | Other wood product manufacturing | 3219 | 3219 |
| BS322100 | Pulp, paper and paperboard mills | 3221 | 3221 |
| BS322200 | Converted paper product manufacturing | 3222 | 3222 |
| BS323000 | Printing and related support activities | 323 | 323 |
| BS324110 | Petroleum refineries | 32411 | 32411 |
| BS3241A0 | Petroleum and coal products manufacturing (except petroleum refineries) | 324 excl. 32411 | 324 excl. 32411 |
| BS325100 | Basic chemical manufacturing | 3251 | 3251 |
| BS325200 | Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing | 3252 | 3252 |
| BS325300 | Pesticides, fertilizer and other agricultural chemical manufacturing | 3253 | 3253 |
| BS325400 | Pharmaceutical and medicine manufacturing | 3254 | 3254 |
| BS325500 | Paint, coating and adhesive manufacturing | 3255 | 3255 |
| BS325600 | Soap, cleaning compound and toilet preparation manufacturing | 3256 | 3256 |
| BS325900 | Other chemical product manufacturing | 3259 | 3259 |

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| "Detailed" Industry Codes | "Detailed" Industry Title | NAICS 2007 Definition | NAICS 2017 Definition |
|---|---|---|---|
| BS326100 | Plastic product manufacturing | 3261 | 3261 |
| BS326200 | Rubber product manufacturing | 3262 | 3262 |
| BS327A00 | Non-metallic mineral product manufacturing (except cement and concrete products) | 327 excl. 3273 | 327 excl. 3273 |
| BS327300 | Cement and concrete product manufacturing | 3273 | 3273 |
| BS331100 | Iron and steel mills and ferro-alloy manufacturing | 3311 | 3311 |
| BS331200 | Steel product manufacturing from purchased steel | 3312 | 3312 |
| BS331300 | Alumina and aluminum production and processing | 3313 | 3313 |
| BS331400 | Non-ferrous metal (except aluminum) production and processing | 3314 | 3314 |
| BS331500 | Foundries | 3315 | 3315 |
| BS332100 | Forging and stamping | 3321 | 3321 |
| BS332A00 | Cutlery, hand tools and other fabricated metal product manufacturing | 3322, 3329 | 3322, 3329 |
| BS332300 | Architectural and structural metals manufacturing | 3323 | 3323 |
| BS332400 | Boiler, tank and shipping container manufacturing | 3324 | 3324 |
| BS332500 | Hardware manufacturing | 3325 | 3325 |
| BS332600 | Spring and wire product manufacturing | 3326 | 3326 |
| BS332700 | Machine shops, turned product and screw, nut and bolt manufacturing | 3327 | 3327 |
| BS332800 | Coating, engraving, heat treating and allied activities | 3328 | 3328 |
| BS333100 | Agriculture, construction and mining machinery manufacturing | 3331 | 3331 |
| BS333200 | Industrial machinery manufacturing | 3332 | 3332 |
| BS333300 | Commercial and service industry machinery manufacturing | 3333 | 3333 |
| BS333400 | Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing | 3334 | 3334 |
| BS333500 | Metalworking machinery manufacturing | 3335 | 3335 |
| BS333600 | Engine, turbine and power transmission equipment manufacturing | 3336 | 3336 |
| BS333900 | Other general-purpose machinery manufacturing | 3339 | 3339 |
| BS334100 | Computer and peripheral equipment manufacturing | 3341 | 3341 |
| BS334200 | Communications equipment manufacturing | 3342 | 3342 |
| BS334A00 | Other electronic product manufacturing | 3343, 3345, 3346 | 3343, 3345, 3346 |
| BS334400 | Semiconductor and other electronic component manufacturing | 3344 | 3344 |
| BS335100 | Electric lighting equipment manufacturing | 3351 | 3351 |
| BS335200 | Household appliance manufacturing | 3352 | 3352 |
| BS335300 | Electrical equipment manufacturing | 3353 | 3353 |
| BS335900 | Other electrical equipment and component manufacturing | 3359 | 3359 |
| BS336110 | Automobile and light-duty motor vehicle manufacturing | 33611 | 33611 |

# Appendix 2

| "Detailed" Industry Codes | "Detailed" Industry Title | NAICS 2007 Definition | NAICS 2017 Definition |
|---|---|---|---|
| BS336120 | Heavy-duty truck manufacturing | 33612 | 33612 |
| BS336200 | Motor vehicle body and trailer manufacturing | 3362 | 3362 |
| BS336310 | Motor vehicle gasoline engine and engine parts manufacturing | 33631 | 33631 |
| BS336320 | Motor vehicle electrical and electronic equipment manufacturing | 33632 | 33632 |
| BS336330 | Motor vehicle steering and suspension components (except spring) manufacturing | 33633 | 33633 |
| BS336340 | Motor vehicle brake system manufacturing | 33634 | 33634 |
| BS336350 | Motor vehicle transmission and power train parts manufacturing | 33635 | 33635 |
| BS336360 | Motor vehicle seating and interior trim manufacturing | 33636 | 33636 |
| BS336370 | Motor vehicle metal stamping manufacturing | 33637 | 33637 |
| BS336390 | Other motor vehicle parts manufacturing | 33639 | 33639 |
| BS336400 | Aerospace product and parts manufacturing | 3364 | 3364 |
| BS336500 | Railroad rolling stock manufacturing | 3365 | 3365 |
| BS336600 | Ship and boat building | 3366 | 3366 |
| BS336900 | Other transportation equipment manufacturing | 3369 | 3369 |
| BS337100 | Household and institutional furniture and kitchen cabinet manufacturing | 3371 | 3371 |
| BS337200 | Office furniture (including fixtures) manufacturing | 3372 | 3372 |
| BS337900 | Other furniture-related product manufacturing | 3379 | 3379 |
| BS339100 | Medical equipment and supplies manufacturing | 3391 | 3391 |
| BS339900 | Other miscellaneous manufacturing | 3399 | 3399 |
| BS411000 | Farm product wholesaler-distributors | 411 | 411 |
| BS412000 | Petroleum product wholesaler-distributors | 412 | 412 |
| BS413000 | Food, beverage and tobacco wholesaler-distributors | 413 | 413 |
| BS414000 | Personal and household goods wholesaler-distributors | 414 | 414 |
| BS415000 | Motor vehicle and parts wholesaler-distributors | 415 | 415 |
| BS416000 | Building materials and supplies wholesaler-distributors | 416 | 416 |
| BS417000 | Machinery, equipment and supplies wholesaler-distributors | 417 | 417 |
| BS418000 | Miscellaneous wholesaler-distributors | 418 | 418 |
| BS419000 | Wholesale electronic Purchasers and agents and brokers | 419 | 419 |
| BS441000 | Motor vehicle parts dealers | 441 | 441 |
| BS442000 | Furniture and home furnishings stores | 442 | 442 |
| BS443000 | Electronics and appliance stores | 443 | 443 |
| BS444000 | Building materials and garden equipment and supplies dealers | 444 | 444 |
| BS445000 | Food and beverage stores | 445 | 445 |
| BS446000 | Health and personal care stores | 446 | 446 |
| BS447000 | Gasoline stations | 447 | 447 |
| BS448000 | Clothing and clothing accessories stores | 448 | 448 |
| BS451000 | Sporting goods, hobby, book and musical instruments stores | 451 | 451 |

# Appendix 2

| "Detailed" Industry Codes | "Detailed" Industry Title | NAICS 2007 Definition | NAICS 2017 Definition |
|---|---|---|---|
| BS452000 | General merchandise stores | 452 | 452 |
| BS453000 | Miscellaneous stores retailers | 453 | 453 |
| BS454000 | Non-store retailers | 454 | 454 |
| BS481000 | Air transportation | 481 | 481 |
| BS482000 | Rail transportation | 482 | 482 |
| BS483000 | Water transportation | 483 | 483 |
| BS484000 | Truck transportation | 484 | 484 |
| BS485100 | Urban transit systems | 4851 | 4851 |
| BS48A000 | Other transit and ground passenger transportation and scenic and sightseeing transportation | 4852, 4854, 4855, 4859, 487 | 4852, 4854, 4855, 4859, 487 |
| BS485300 | Taxi and limousine service | 4853 | 4853 |
| BS486A00 | Crude oil and other pipeline transportation | 4861, 4869 | 4861, 4869 |
| BS486200 | Pipeline transportation of natural gas | 4862 | 4862 |
| BS488000 | Support activities for transportation | 488 | 488 |
| BS491000 | Postal service | 491 | 491 |
| BS492000 | Couriers and messengers | 492 | 492 |
| BS493000 | Warehousing and storage | 493 | 493 |
| BS511110 | Newspaper publishers | 51111 | 51111 |
| BS5111A0 | Periodical, book and directory publishers | 51112, 51113, 51114, 51119 | 51112, 51113, 51114, 51119 |
| BS511200 | Software publishers | 5112 | 5112 |
| BS5121A0 | Motion picture and video industries (except exhibition) | 51211, 51212, 51219 | 51211, 51212, 51219 |
| BS512130 | Motion picture and video exhibition | 51213 | 51213 |
| BS512200 | Sound recording industries | 5122 | 5122 |
| BS515100 | Radio and television broadcasting | 5151 | 5151 |
| BS515200 | Pay and specialty television | 5152 | 5152 |
| BS517000 | Telecommunications | 517 | 517 |
| BS518000 | Data processing, hosting, and related services | 518 | 518 |
| BS519000 | Other information services | 519 | 519 |
| BS521000 | Monetary authorities - central bank | 521 | 521 |
| BS5221A0 | Banking and other depository credit intermediation | 52211, 52219 | 52211, 52219 |
| BS522130 | Local credit unions | 52213 | 52213 |
| BS522200 | Non-depository credit intermediation | 5222 | 5222 |
| BS522300 | Activities related to credit intermediation | 5223 | 5223 |
| BS52A000 | Financial investment services, funds and other financial vehicles | 523, 526 | 523, 526 |
| BS524100 | Insurance carriers | 5241 | 5241 |
| BS524200 | Agencies, brokerages and other insurance related activities | 5242 | 5242 |

# Appendix 2

| "Detailed" Industry Codes | "Detailed" Industry Title | NAICS 2007 Definition | NAICS 2017 Definition |
|---|---|---|---|
| BS531100 | Lessors of real estate | 5311 | 5311 |
| BS531A00 | Offices of real estate agents and brokers and activities related to real estate | 5312, 5313 | 5312, 5313 |
| BS5311A0 | Owner-occupied dwellings | ND | ND |
| BS532100 | Automotive equipment rental and leasing | 5321 | 5321 |
| BS532A00 | Rental and leasing services (except automotive equipment) | 532, excl. 5321 | 532, excl. 5321 |
| BS533000 | Lessors of non-financial intangible assets (except copyrighted works) | 533 | 533 |
| BS541100 | Legal services | 5411 | 5411 |
| BS541200 | Accounting, tax preparation, bookkeeping and payroll services | 5412 | 5412 |
| BS541300 | Architectural, engineering and related services | 5413 | 5413 |
| BS541400 | Specialized design services | 5414 | 5414 |
| BS541500 | Computer systems design and related services | 5415 | 5415 |
| BS541600 | Management, scientific and technical consulting services | 5416 | 5416 |
| BS541700 | Scientific research and development services | 5417 | 5417 |
| BS541800 | Advertising, public relations, and related services | 5418 | 5418 |
| BS541900 | Other professional, scientific and technical services | 5419 | 5419 |
| BS551113 | Holding companies | NA | NA |
| BS561100 | Office administrative services | 5611 | 5611 |
| BS561A00 | Facilities and other support services | 5612, 5619 | 5612, 5619 |
| BS561300 | Employment services | 5613 | 5613 |
| BS561400 | Business support services | 5614 | 5614 |
| BS561500 | Travel arrangement and reservation services | 5615 | 5615 |
| BS561600 | Investigation and security services | 5616 | 5616 |
| BS561700 | Services to buildings and dwellings | 5617 | 5617 |
| BS562000 | Waste management and remediation services | 562 | 562 |
| BS610000 | Educational services | 61 | 61 |
| BS621100 | Offices of physicians | 6211 | 6211 |
| BS621200 | Offices of dentists | 6212 | 6212 |
| BS621A00 | Miscellaneous ambulatory health care services | 6213, 6214, 6215, 6216, 6219 | 6213, 6214, 6215, 6216, 6219 |
| BS623000 | Nursing and residential care facilities | 623 | 623 |
| BS624000 | Social assistance | 624 | 624 |
| BS71A000 | Performing arts, spectator sports and related industries, and heritage institutions | 711, 712 | 711, 712 |
| BS713A00 | Amusement and recreation industries | 7131, 7139 | 7131, 7139 |
| BS713200 | Gambling industries | 7132 | 7132 |

# Appendix 2

| "Detailed" Industry Codes | "Detailed" Industry Title | NAICS 2007 Definition | NAICS 2017 Definition |
|---|---|---|---|
| BS721100 | Traveller accommodation | 7211 | 7211 |
| BS721A00 | RV (recreational vehicle) parks, recreational camps, and rooming and boarding houses | 7212, 7213 | 7212, 7213 |
| BS722000 | Food services and drinking places | 722 | 722 |
| BS811100 | Automotive repair and maintenance | 8111 | 8111 |
| BS811A00 | Repair and maintenance (except automotive) | 8112, 8113, 8114 | 8112, 8113, 8114 |
| BS812A00 | Personal care services and other personal services | 8121, 8129 | 8121, 8124 |
| BS812200 | Funeral services | 8122 | 8122 |
| BS812300 | Dry cleaning and laundry services | 8123 | 8123 |
| BS813000 | Professional and similar organizations | 813 | 813 |
| BS814000 | Private households | 814 | 814 |
| FC110000 | Repair and maintenance | 811 | 811 |
| FC120000 | Operating supplies | Fictive | Fictive |
| FC130000 | Office supplies | Fictive | Fictive |
| FC210000 | Advertising, promotion, meals and entertainment | Fictive | Fictive |
| FC220000 | Travel, meeting and convention expenses | Fictive | Fictive |
| FC300000 | Transportation margins | Fictive | Fictive |
| NP610000 | Educational services | 61 | 61 |
| NP621000 | Ambulatory health care services | 621 | 621 |
| NP624000 | Social assistance | 624 | 624 |
| NP710000 | Arts, entertainment and recreation | 71 | 71 |
| NP813100 | Religious organizations | 8131 | 8131 |
| NP813A00 | Grant-making, civic, and professional and similar organizations | 813 excl. 8131 | 813 excl. 8131 |
| NP999999 | Other non-profit institutions serving households | NA | NA |
| GS611100 | Elementary and secondary schools | 6111 | 6111 |
| GS611200 | Community colleges and C.E.G.E.P.s | 6112 | 6112 |
| GS611300 | Universities | 6113 | 6113 |
| GS611A00 | Other educational services | 6114-6117 | 6114-6117 |
| GS622000 | Hospitals | 622 | 622 |
| GS623000 | Nursing and residential care facilities | 623 | 623 |
| GS911100 | Defence services | 9111 | 9111 |
| GS911A00 | Other federal government services | 911 excl. 9111 | 911 excl. 9111 |
| GS912000 | Other provincial and territorial government services | 912 | 912 |
| GS913000 | Other municipal government services | 913 | 913 |
| GS914000 | Other aboriginal government services | 914 | 914 |

**Notes:** NA: Not Available
ND: Not Described in NAICS